



## FISH HEALTH MANAGEMENT GRANT F-75-R-14

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## **ABSTRACT**

This report contains a description of the activities of the Eagle Fish Health Laboratory (EFHL), operated by the Idaho Department of Fish and Game (IDFG), for the calendar year 1997. The primary charge of this program is to monitor, inspect, and improve the health of fish raised at 13 resident hatcheries, 11 anadromous hatcheries and satellites, and Eagle Hatchery, which rears ESA-listed salmon captive broodstocks. Results of these diagnostic cases are presented in the text by program and facility. The most significant pathogens encountered in the resident and anadromous programs were cold water disease (CWD), bacterial kidney disease (BKD), infectious hematopoietic necrosis virus (IHNV), bacterial gill disease (BGD), and furunculosis. A high prevalence of tumors and anomalies occurred in the sockeye salmon *Oncorhynchus nerka* captive broodstocks. The IDFG fisheries managers, researchers, hatcheries, and EFHL pathologists utilized the newly completed wet laboratory during the year.

Wild salmonids from all regions of the state were examined for the parasite that causes whirling disease (WD). The only new occurrence of WD this year was cutthroat trout *O. clarki* broodstocks from Henrys Lake in the IDFG Upper Snake River region. The IDFG initiated research to determine the impact of WD on wild salmonid populations in four drainages previously demonstrated positive for *Myxobolus cerebralis*. The staffs of both the EFHL and Eagle Hatchery supported this research.

The EFHL staff remained active participants in regional and national fish health issues. This included administering the Investigational New Animal Drug (INAD) program through the United States Fish and Wildlife Service (USFWS) INAD Program. Examples of additional liaison activities are included in the text.

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## PERIOD COVERED BY THIS REPORT

This report covers activities for grant F-75-R-14 Federal Aid in Fish Restoration January 1 to December 31, 1997 by the IDFG.

## FISH HEALTH MONITORING AND MANAGEMENT ACTIVITIES OF THE IDAHO DEPARTMENT OF FISH AND GAME

### Resident Hatchery Activities

The Resident Fish Pathologist, stationed at the EFHL provides service for hatcheries which rear and plant resident species. Duties include collection of samples from diagnostic and inspection cases for 11 culture facilities and their associated captive and feral broodstocks, monitoring diagnostic results, reporting results to hatchery management, recommending and supervising treatments, and preparing and maintaining files for INAD reporting for each station. Samples were also obtained as part of a survey of wild salmonids of Idaho waters. In 1997, these activities generated 6 laboratory accessions for the wild fish survey, 30 diagnostic, 63 inspection, and 7 research cases for the resident program. The specific results for these cases are included in Appendix 1 and are listed by IDFG region and for each fish culture facility. A brief summary of those results and activities for each resident station follows.

### **American Falls Hatchery**

No clinical disease episodes occurred at American Falls Hatchery in 1997, nor were any pathogens detected in two separate inspections of rainbow trout *Oncorhynchus mykiss*. Changes in the management strategy at this hatchery are primarily responsible for this improvement in fish health. Specifically, fry are now directly ponded from incubators to the outside raceways instead of using the inside vats for early rearing. This eliminates a handling step and associated stress that typically occurs when the fish are at a stage most susceptible to bacterial CWD, caused by *Flavobacterium psychrophilum*. Loading densities have also been kept low to further reduce stress.

### **Ashton Hatchery**

Ashton Hatchery was visually inspected twice in 1997, but no fish were sacrificed for laboratory analysis. Hatchery personnel reported outbreaks of *Gyrodactylus*, an external trematode parasite, which were routinely treated with flushes of formalin under the existing label.

The proximity of Ashton Fish Hatchery to waters containing *Myxobolus cerebralis*, the causative agent of WD is a disease risk. Enclosure of the hatchery intake would limit threats to the hatchery water supply of *M. cerebralis* and the means to fund such reconstruction need serious consideration.

### **Cabinet Gorge Hatchery**

Late-spawning kokanee salmon *O. nerka kennerlyi* production at Cabinet Gorge Hatchery originate primarily from eggs taken at Sullivan Springs on Lake Pend Oreille. Spawning adults at that site are sampled annually for fish pathogens. Positive results from adults in 1997 included

*Renibacterium salmoninarum* (RS), the causative agent of BKD, antigen by the enzyme-linked immunosorbent assay (ELISA) at low-levels. No viable RS organisms were detected by the fluorescent antibody test (FAT). No replicating viruses, *Ceratomyxa shasta* spores, or *M. cerebralis* spores were detected. Insufficient numbers of adults returned to the Clark Fork River ladder to warrant sampling.

Production fish at the hatchery were visually inspected but were not sampled in 1997, primarily because the fish were very small at the time of the pathologist's only visit. Installation of baffles in the raceways and changes in feeding and cleaning patterns have helped to avoid clinical bacterial gill disease for a second consecutive year. No clinical BKD has been observed on the facility since the captive kokanee broodstock program was discontinued in 1994.

### **Clark Fork Hatchery**

Infectious pancreatic necrosis virus and RS are the primary pathogens of concern at Clark Fork Hatchery. No IPNV was isolated from fish in 1997, due primarily to the timing of sampling rather than to the absence of the virus. Clinical BKD seemed to be less prevalent in cutthroat trout *O. clarki* and brook trout *Salvelinus fontinalis* populations, although samples from the cutthroat broodstock populations continue to test high for RS antigen by ELISA. The hatchery water supply is drawn from an open spring creek harboring wild brook trout that are proven carriers of both IPNV and RS. Until major engineering changes can be made in the water intake system, Clark Fork Hatchery will continue to have problems with these pathogens.

Fingerling Kamloops trout *O. mykiss* and cutthroat trout were both diagnosed with CWD during 1997. Concomitant infections by different species of *Pseudomonas* bacteria, one of the causative agents of motile aeromonad septicemia (MAS), required treatment with oxytetracycline (OTC) when water temperatures were above 48° F.

### **Clearwater Hatchery Resident Program**

Kamloops and rainbow trout were sampled three times at Clearwater Hatchery. Diagnosis from one inspection was MAS (*Pseudomonas aureofaciens*) while the other two inspections detected no viral or bacterial pathogens.

### **Grace Hatchery**

Three diagnostic cases were examined at Grace Hatchery in 1997, all involving Hayspur-strain rainbow trout. The first episode involved MAS and CWD (concomitant heavy infections of *Aeromonas hydrophila* and *F. psychrophilum*). Overloading of the small raceways was a precursor to this situation. Thinning followed by treatment with OTC in the feed was fairly successful in alleviating losses. The second episode was diagnosed as CWD only, which required use of an INAD protocol to treat the fish with OTC. Results of the treatment were not very satisfactory, so the same lot of fish were examined a second time. Only a few colonies of a *Flavobacterium* species and of *P. fluorescens* were found in the follow-up, so no further treatment was applied.

## Hagerman State Hatchery

Seven inspection cases and nine diagnostic cases were examined at Hagerman State Hatchery in 1997. Better survival of swim-up rainbow trout fry in the hatchery vats was achieved by eliminating the belt feeders and returning to hand-feeding until the fish were well established in their feeding behavior. Better utilization of the feed resulted in improved nutrition and less waste. However, this did not completely eliminate the dropout syndrome that still occurs randomly in the vats. Specifically, fry on feed for 5-7 days suddenly become lethargic, stop feeding, and drop to the bottom of the vat. Mortalities in individual vats can be as high as 70-80%, but are not necessarily consistent within a given lot. No virus or internal bacteria have been isolated. The one common pathologic change is a swelling of the gill lamellae, often with external fungus or filamentous bacteria. It has not been determined if the gill problem is primary or secondary to the syndrome.

Losses in the outside raceways were attributed to IHNV, bacterial infections, or a combination thereof. Frequent episodes of virus were experienced in 1997 (some confirmed by the Lab and some not), but the overall percentage of fish lost was down. This may be attributed to a combination of bird exclusion nets over the large raceways, reconstruction of the Tucker Springs portion of the large raceway headrace, and management efforts to grow the fish to larger size before transfer to the large raceways supplied with Riley Creek water.

Two lots of fish were treated for CWD (*F. psychrophilum*) with INAD 9332 protocols. Success of the OTC-treatments was reduced by subsequent episodes of IHNV. Motile aeromonad septicemia, (*A. hydrophila* and *P. fluorescens*), was the other significant bacterial disease detected at Hagerman State Hatchery in 1997. When appropriate, it was treated with OTC-medicated feed under the existing label.

## Hayspur Hatchery

Hayspur Hatchery is the IDFG's major source of rainbow trout eggs, with 1997 production of nearly 15 million green eggs. Fish production at this facility is limited to broodstock replacement, reared on specific pathogen-free spring/well water. No fish were reared on surface water (Loving Creek) or in the earthen ponds, due to the presence of *M. cerebralis* in those systems. No clinical diseases were observed on the facility in 1997.

The major focus of the pathologist's work at Hayspur Hatchery was inspection of the brood populations and replacement lots. No replicating viruses were detected from 720 individual adult and juvenile fish sampled from all populations over the course of the year. The ELISA test detected a carrier state of RS from every population, at low levels in juvenile replacement fish and at moderate to high levels (optical density values as high as 0.65) in spawning adults. Direct FAT of both kidney tissue imprints and ovarian fluid cell pellets (OCP-FAT) did not detect RS, but membrane filtration of ovarian fluids did detect RS organisms from the Colorado River and the Kamloops spawning populations. No clinical BKD has ever been observed on this hatchery and both prevalence and levels of bacteria have been reduced over time by culling the eggs from positive females in the broodstock replacement groups.

Female fish from spawning populations were injected with either 5 mg/kg OTC or 3000 IU/lb Penicillin-G approximately one month prior to spawning. The goal of this work was to reduce the possibility of transmitting *F. psychrophilum* bacteria to the next generation via the eggs. Injected fish are never released for sport fishing or human consumption. A program using both chemical and vaccination therapies to control this pathogen will continue as a priority at this hatchery.

## Henrys Lake Hatchery

Gametes taken from spawning cutthroat and brook trout at Henrys Lake Hatchery were fertilized and incubated at Ashton Hatchery. Ovarian fluid samples were collected by hatchery personnel and shipped to the Eagle Lab where they were tested for viruses and for RS by OCP-FAT. A group of 60 adults from each run was also sacrificed to obtain tissue samples that were tested for BKD (ELISA and FAT), viruses, and WD. Cutthroat ovarian fluids and tissue samples were negative for viruses. Two of 300 ovarian fluid pools were positive for RS by OCP-FAT, and 7 of 12 pooled kidney samples tested positive (low) for RS antigen by ELISA. Eggs from those females whose ovarian fluids tested positive were discarded. No *Myxobolus* spores were detected from the cutthroat samples, although this population was confirmed WD-positive in 1996.

No replicating viruses or RS were detected in the ovarian fluid samples from adult brook trout. Tissue tests were also negative for viruses, but ELISA detected RS antigen in 2 of 12 pooled kidney samples at low levels. Bacterial samples detected two species of *Flavobacterium*, (*F. psychrophilum* and *F. odoratum*) from the brook trout, but *A. salmonicida* was not detected as it has been in past years. After three consecutive years of detecting *Myxobolus* spores in the brook trout by the digest method, *M. cerebralis* was finally confirmed by histology in 1997.

The presence of RS, *A. salmonicida*, and *M. cerebralis* in fish from Henrys Lake Hatchery require that the greatest care be taken to disinfect all eggs and equipment that leave the facility.

## Kootenai Hatchery

The Kootenai Tribe of Idaho operates Kootenai Hatchery and rears ESA-listed white sturgeon *Acipenser transmontanus* for release to the Kootenai River. Fish health at the facility was reportedly excellent in 1997. No outbreaks of bacterial gill disease or white sturgeon iridovirus were reported, and no fish samples were analyzed by EFHL. The IDFG's contract with the Tribe to operate this facility expired at the end of June.

## Mackay Hatchery

No clinical diseases were reported at Mackay Hatchery in 1997. The only pathogen detected by routine inspection of production fish was *A. hydrophila* (carrier) in the Saratoga-strain brown trout *Salmo trutta*. The proximity to the hatchery of waters from which *M. cerebralis* has been detected continues to pose a threat. Hatchery personnel must continue to be alert to the possibility of contamination from adjacent waters, although the parasite has never been detected in fish reared on station. Effective exclusion of piscivorous birds and fish-eating mammals would greatly reduce concern over this situation and should be given high priority.

Mackay Hatchery received green kokanee eggs from a spawning operation on the Payette River above Payette Lake. Inspection of the feral spawning adults detected no replicating viruses or *Myxobolus* spores. A high prevalence of RS antigen was detected by ELISA (25 of 29 five-fish pools, or 86%) but optical densities were all in the low range. No RS organisms were detected by FAT in 75 kidney imprints, nor were any clinical signs of BKD observed.

## **McCall Hatchery Resident Program**

The Fish Lake cutthroat egg production for the McCall Hatchery Resident Program was low this year due to a reduced number of adults returning to the trap. Ovarian fluids were collected from 51 females for pathogen screening, and 20 males were sacrificed for tissue sample tests (ELISA and kidney FAT, virology, WD, and *C. shasta*). The only positive results from these tests were RS by ELISA (14 of 20, 13 lows and 1 high). No clinical signs of BKD were observed. The prevalence of RS by ELISA in this population has remained fairly constant over five years of testing, ranging from 70% to 90%. Much of the IDFG's resident cutthroat program is based on eggs from this feral fish population. The majority of the progeny are destined for high mountain lake stocking throughout most of Southern Idaho, with the remainder returned to Fish Lake to maintain the program. It might be beneficial to give an erythromycin treatment to these fry prior to stocking. A policy decision on the cost effectiveness of a feral, potentially diseased brood population versus a clean captive source needs to be made.

## **Nampa Hatchery**

Bacterial CWD and MAS (primarily caused by *A. hydrophila*) continued to be the two most common diseases diagnosed in rainbow trout at Nampa Hatchery, while a number of bacteria were found in the brown trout which may not have been definite causes of disease. Not all episodes were severe enough to warrant treatment. Oxytetracycline-medicated feed was used to treat the fish, under either INAD or existing approved label, when losses became unacceptable. Response to such treatment was generally satisfactory.

Maintenance of the bird and animal exclusion structures and care in importing eggs from certified sources should be successful in maintaining healthy fish at this hatchery. Priority should be given to reducing CWD through both chemical therapy and hatchery management.

## **Sandpoint Hatchery**

No fish were reared at Sandpoint Hatchery during 1997 due to the collapse of the water supply line on December 31, 1996. Funds to repair the line are available and reconstruction will begin in 1998.

## **Anadromous Hatcheries**

The IDFG hatchery facilities and associated satellite release and adult capture stations for steelhead trout *O. mykiss* and chinook salmon *O. tshawytscha* are funded through Lower Snake River Compensation Plan (LSRCP) and Idaho Power Corporation (IPC) contributions. The annual summary of results for the hatcheries and satellite stations is presented in Appendix 1. In 1997, a total of 178 inspection and diagnostic cases were done by the EFHL for the Anadromous Hatchery Program.

## **Clearwater Hatchery and Crooked River, Powell, and Red River Satellite Facilities**

The Clearwater Hatchery produces steelhead and chinook in conjunction with Crooked River, Powell, and Red River satellite facilities.

**Clearwater Hatchery**-Dworshak National Hatchery (DNFH) provides eggs for Clearwater Hatchery's steelhead program. A total of 57 inspection and diagnostic cases were attributed to these facilities. In 1997, disease conditions included BKD, CWD and MAS in juvenile chinook. Broodstock examinations did not detect IHN in DNFH steelhead. In adult samples, WD was not confirmed.

The production of steelhead was virtually free of pathogens during this past brood year (Appendix 1). Steelhead health was exceptional, as no pathogens were detected during most of 1997. Acute losses in spring chinook salmon from BKD were experienced in the high BKD segregation groups from Lookingglass and Rapid River hatcheries. Although three applications of erythromycin medicated feed were fed to these fish, morbidity and mortality due to BKD continued at a lesser intensity until release at Hell's Canyon. The IDFG and the Nez Perce Tribe decided to release these fish at Hell's Canyon to reduce the risk of horizontal transmission of *Renibacterium* to Rapid River Hatchery fish.

**Crooked River Satellite Facility**-Juvenile fish were not reared at this facility during 1997. All brood fish trapped at this facility were transported to and spawned at Red River Satellite. To facilitate management, the South Fork of the Clearwater River spring chinook salmon was created from combining Crooked River fish and Red River fish.

**Powell Satellite Facility**-Juvenile fish were not reared at this facility during 1997. Brood fish were trapped, spawned and sampled for disease during 10 spawning days. Samples were sent to Eagle Fish Health Laboratory and examined for virology, WD, and BKD segregation by ELISA.

**Red River Satellite Facility**-During 1997 juveniles were not reared at this facility. Brood fish trapped at Red River and Crooked River satellites were spawned and sampled for BKD, utilizing ELISA technology. Viral and WD samples were also examined.

### **Magic Valley Hatchery**

Dworshak, East Fork, Pahsimeroi, and Sawtooth steelhead stocks required 18 inspection trips during 1997 at the Magic Valley Hatchery. By mid-June 1997, the Dworshak steelhead group B (STB) experienced mortalities similar to those caused by IHN. Viral replicating agents were not detected, but *F. psychrophilum*, the causative agent of CWD, was cultured in numbers too numerous to count (TNTC). Oxytetracycline (OTC) medicated feed was applied for 14 days at 10g/100lb of biomass/day of active drug. Daily mortality was at times greater than 3000+ fish/day/raceway.

Furunculosis, caused by *A. salmonicida*, was detected in three out of four Pahsimeroi Hatchery STA examined. This strain of furunculosis was susceptible to OTC. Romet-30 was not used since the release date was less than 42 days away. Thus OTC medicated feed was applied. Morbidity and mortality caused by this epizootic was minimal and these fish were released on schedule.

The organosomatic index demonstrated a very robust fish, with plenty of stored energy (fat index of four). No IPNV or *M. cerebralis* was detected in 1997 from Magic Valley Hatchery. A stringent disinfection program has been applied to this hatchery on an annual basis.

## **McCall Hatchery**

Six inspection and diagnostic cases were processed from the McCall Hatchery anadromous program during 1997. No serious pathogens were detected at McCall Hatchery during this calendar year.

A benefit of the BKD segregation program is that production fish were not exposed to RS transmitted horizontally from carrier fish. Fish health programs have been successful at McCall Hatchery. The BKD high segregation groups should be reared at lower density, given fortified feed, and longer and more frequent prophylactic treatments of erythromycin-medicated feed. With better care, high BKD segregation groups can produce returning adults.

The South Fork Trap, which is a satellite of McCall Hatchery, had 18 accessions logged into the EFHL during 1997. Brood South Fork summer chinook were examined for RS, *M. cerebralis*, and viral replicating agents. No *M. cerebralis* or viral replicating agents were detected. The RS pathogen was detected using ELISA. The ELISA optical density data was utilized to choose which egg lots were to be culled. Egg lots from high optical density females represent the greatest risk for horizontal transmission of *Renibacterium*. The egg lots from females with optical density 0.4 or above were culled from the hatchery program. The EFHL is able to make a culling or segregation program to fit the needs of each IDFG chinook hatchery.

## **Niagara Springs Hatchery**

Fifteen inspection or diagnostic cases were attributed to Niagara Springs Hatchery during 1997. Hells Canyon and Pahsimeroi steelhead stocks were examined and IHNV, CWD, and *Yersinia ruckeri*, causative agent of enteric redmouth disease (ERM) were responsible for mortality.

In order to improve fish health at Niagara Springs Hatchery, several improvements to fish culture are being made. The nursery has been expanded and improved, thus drastically reducing suffocation during early rearing. Furthermore, a near-complete exclusion of piscivorous birds from the hatchery (by installing netting/wire) has been completed. An aggressive immunization program against furunculosis has kept mortalities to this infectious agent to a minimum. Future endeavors should focus on inventory manipulations to maintain densities below stressful levels and to manage around opportunistic pathogens such as *Flavobacterium*.

## **Oxbow Hatchery**

Six inspections were made to Oxbow Hatchery. Steelhead group A (STA) adults were examined during spawning for IHNV, IPNV, RS, and WD. Only RS was detected via ELISA during 1997 in returning steelhead adults.

## **Pahsimeroi Hatchery**

Samples of steelhead and chinook from Pahsimeroi Hatchery resulted in 24 laboratory accessions to the EFHL in 1997.

Adult STA and adult and juvenile summer chinook were sampled for pathogens. No evidence of virus was detected in any adult group. The RS antigen could be detected by ELISA, but typically at low levels. The WD is endemic to the drainage and juvenile chinook will become positive

for WD when reared on river water. Clinical signs became apparent during the fall and winter months. The parasite was detected in adult chinook, but not adult steelhead. The IHNV was detected in steelhead fry reared on river water at the lower facility raceways. These fish were destroyed.

Salmonids reared at Pahsimeroi Hatchery have been positive for WD for almost a decade and 1997 was no different. All of the fish were early-reared at Sawtooth Hatchery to avoid early challenges of the parasite *M. cerebralis*. Once the fish reached a minimum length of 7 cm, they were ponded at the upper facility at Pahsimeroi Hatchery supplied with Pahsimeroi River water. By preliberation sample, these fish had low levels of *M. cerebralis* infection by the Pepsin/Trypsin digest method.

Prophylactic treatments of erythromycin-medicated feed were administered twice, in accordance with Pahsimeroi Hatchery's INAD protocols. The disease RS was not found via FAT methods. Pooled samples examined via ELISA methods were 2/4 positive both with low optical density.

Fish reared at early-rearing facilities at the lower raceways at Pahsimeroi Hatchery had chronic problems with environmental gill disease, while those ponded at the upper facility experienced no loss to gill disease. Acute losses were not experienced at Pahsimeroi Hatchery this year.

In conjunction with IPC, the hatchery staff and EFHL staff are exploring options to manage *M. cerebralis* infection. The primary focus of this investigation is to develop a better water source for early rearing. Local springs are being analyzed for water chemistry, temperature, volume, gas saturation, and many other parameters. This is an opportunity for IDFG and IPC to work together with the local residents to overcome this problem.

### **Rapid River Hatchery**

Forty-three inspection and diagnostic cases were made with samples from Rapid River Hatchery during 1997. The majority of these cases were adult female chinook salmon samples to establish BKD titers for ELISA-based segregation and culling.

Pathogens and diseases detected in juvenile spring chinook include RS by ELISA, CWD, and MAS. External mycosis, "Fuzzy-tail," which had been a perennial problem at this hatchery in the late 1980s and early 1990s was virtually non-existent. Pooled kidney samples, examined via ELISA methods, had two of four pools positive for RS (all low titers) for preliberation samples. No fish were found to be positive for RS via FAT. *Flavobacterium psychrophilum* was found in routine examinations during random inspection sampling.

The BKD culling and/or a segregation program should be continued to maintain fundamental fish health conditions. Fish should also be fin-clipped when water conditions have low sediment load and temperature. A September mortality of juvenile fish was caused by MAS. Mortality was controlled with one treatment of OTC at the standard rate (3.75 grams/100lb/day).

### **Sawtooth Hatchery**

Eighty-two cases were made to check juvenile and brood fish at Sawtooth Hatchery in 1997. Juvenile stocks examined at this facility were Sawtooth and Pahsimeroi chinook stocks, and Redfish Lake sockeye. Only one diagnostic trip was made in 1997 to examine steelhead smolts, which were

acclimating at Sawtooth Hatchery. In addition, samples were taken or obtained from adult East Fork stock steelhead and Sawtooth steelhead. No evidence of virus resulted. While BKD antigen was detectable in adults of both species, clinical BKD did not cause mortality in juvenile chinook this year. This may be due to prolonged rearing on well water. This has also resulted in decreased detection of WD in chinook, since the river water supply has been demonstrated to carry the infectious stage of *M. cerebralis*.

Fish health at Sawtooth Hatchery was excellent for most of the 1997 Sawtooth spring chinook. A chronic disease situation caused by loading and transport trauma was investigated by the EFHL. The only pathogen found was *F. psychrophilum* (CWD).

Organosomatic indices of randomly collected fish were excellent. Mesenteric fat index averaged 3.22 and the gills of these fish were in good condition.

### **Sockeye and Chinook Captive Broodstock**

The IDFG facilities at Eagle include both the EFHL and the Eagle Hatchery, which is dedicated to rearing ESA-listed Redfish Lake sockeye salmon *O. nerka* captive broodstock to maturity and the resulting progeny for release. This program began in 1991 and continues to the present.

A similar experimental project was initiated in 1995 to include rearing ESA-listed chinook from collections of wild parr. The site selected for the freshwater rearing portion of this project was Eagle Hatchery, which shares grounds with the EFHL. The marine site was the National Marine Fisheries Service's (NMFS) Manchester Marine Laboratory. Both the sockeye and chinook programs generate considerable case workload for the EFHL. Program activities for 1997 are reported by species.

### **Redfish Lake Sockeye Salmon Captive Broodstock**

A total of 68 cases at EFHL were generated from brood years 1993, 1994, and 1996 of the sockeye broodstock program. Important findings include continuing to document a high prevalence of lymphosarcoma tumors; the lack of replicating virus and BKD, indicating that quarantining efforts were successful; optic aplasia; a motile aeromonad in progeny which caused loss; and an undetermined condition or syndrome which may have a nutritional or water chemistry cause.

The BKD control efforts have been applied to broodstock at both Eagle Hatchery and Manchester. All adult spawners and males used for cryopreservation were sampled for the presence of virus and BKD. This totaled 218 adults for Eagle Hatchery alone. The Stanley Basin Sockeye Technical Oversight Committee (SBSTOC) developed a management plan for rearing progeny, based on the ELISA optical density of kidney tissue of the female parent. Cut-off optical density values were employed to prevent the reintroduction of BKD positive eggs into Eagle Hatchery and Sawtooth Hatchery. These ELISA-based segregation and rearing practices are designed to reduce the risk of having BKD in returning adults. The IDFG believes that by these practices, there will be an advantage toward recovery if the returning adults are free of BKD.

The EFHL staff participated in evaluation and documentation of optic aplasia, an anomaly of the eyes in the progeny of the single female anadromous return. There were two different conditions observed: progeny that lacked a single eye and those missing both eyes. These conditions occurred regardless of which male was used to fertilize the eggs. The prevalence of the bilateral optic aplasia was 9.5 % and 20% for the single optic aplasia. Histological examination of each condition indicated those fish missing a single eye lacked all optic structures internal to the

comea while those with the bilateral condition had all optic structures but the eyes were not inflated with vitreous humor.

### **Salmon River Chinook Captive Rearing**

This marked the third year in which collections of wild parr were made for Idaho ESA-listed spring chinook for an experiment to test the feasibility of raising chinook parr to maturity in fish culture facilities. During 1997, BY96 parr were collected from the Lemhi River, East Fork Salmon River, and West Fork Yankee Fork within the evolutionarily significant genetic unit of the species. Collected parr were initially reared at Sawtooth Hatchery and subsequently transferred to Eagle Hatchery. When smolted, the groups will be divided into those destined for saltwater rearing at Manchester Marine Laboratory and those retained at Eagle Hatchery for freshwater culture. The EFHL continued to participate in this program in the capacity of lending fish health support and in processing and storing samples for genetic analysis.

Important pathology findings included the presence of BKD, *M. cerebralis*, and the copepod gill parasite, *Salmincola californiensis*, when parr were collected. Fin erosion progressed in fish which continued to be reared in freshwater following smoltification. An attempt to control the fin erosion with Chloramine T was not successful. Some males that matured from both the freshwater and saltwater locations as three-year-olds were released back to their natal streams. Additionally, sperm of males from two stocks was cryopreserved at EFHL. The fish health problems with these wild-origin parr has forced a reconsideration of starting similar programs from eggs which can be surface disinfected with iodine.

### **IDAHO WILD FISH HEALTH SURVEY**

An examination of samples obtained from wild fish in the State of Idaho has been ongoing at the EFHL since the mid-1980s. The distribution of *M. cerebralis* and the impact of the parasite on wild and hatchery salmonid populations has been a concern of the IDFG since 1987, when it was detected in trout which contracted the infection from Idaho waters. Efforts in 1997 were to support IDFG fisheries research on whether WD-related population effects are present in wild salmonids in Idaho. This research examined trout population structure from the Teton and South Fork Snake rivers. We employed a quantitative spore-load estimated protocol to the live-boxed trout. This research demonstrated that infections resulted from exposing rainbow and cutthroat trout to the Teton River for ten days during July. The population structure of wild rainbow trout may be impacted by *M. cerebralis*. However, while Yellowstone cutthroat trout became infected at a rate similar to that of rainbow in the live box studies, wild cutthroat populations appear to be doing well (Elle and Schill 1999, Dillon and Gamblin 1999).

The only new location for *M. cerebralis* in Idaho waters was from wild cutthroat trout from the mainstem of the Middle Fork Salmon River and from the lower reach of Big Creek. Both *M. cerebralis* spores and those of neurotropic *Myxobolus spp.* (possibly *M. neurobius*) were found in fish taken at the two locations.

Yellow perch from Cascade Reservoir were examined to investigate whether there was a fish health explanation to a severe population decline. Multiple parasitism was identified in the samples of young fish but probably was not responsible for the decline.

The lab shared its fish health database with the USFWS Wild Fish Disease Survey for inclusion in their data. This is an important effort in cooperation between state agencies and the

federal service. There are extensive data from fish health observations made over many years, which would be useful at the national level to understand how pathogens operate in wild fish populations. Some of these historic observations are from species that are currently ESA-listed, such as bull trout in Idaho.

## TRANSPORTATION AND IMPORTATION PERMITS

The EFHL issued 57 transport or import permits for the IDFG Fisheries Bureau during 1997. These permits are required when non-aquaculture species are released to public waters of the State of Idaho. Most of these dealt with grass carp, white amur, (*Ctenopharyngodon idella*) to be used for biological control of aquatic vegetation. The IDFG policy requires that these be certified free of Asian tapeworm and to be sterile triploids. The United States Department of Agriculture Laboratory at Stuttgart, Arkansas generated the certification for both conditions. Other permits were issued to the NMFS for importation of Redfish Lake sockeye smolts for release and adults for volitional spawning; to the USFWS for research activities in the Clearwater River system; to the Kootenai Tribe of Idaho for culture and release actions with endangered white sturgeon; to the Nez Perce Tribe for fish culture activities; and to the University of Idaho Aquaculture Research Institute.

## REPORTS AND PRESENTATIONS

Reports generated by the EFHL include the Annual Resident Hatchery report for 1997 and the monthly LSRCP and disease summary reports. Presentations were given on the fish disease status in Idaho at the anadromous fish management meeting; at the IDFG hatchery managers' meeting; at the PNFHPC semi-annual meetings and symposium entitled Pathogens and Diseases in Aquatic Ecosystems; to the Western Fish Disease Workshop and American Fishery Society (AFS) Fish Health Section meeting; and Northwest Fish Culture Conference.

The EFHL personnel attended seven meetings of the Snake River Sockeye Technical Oversight Committee and five meetings of the Chinook Captive Rearing Technical Oversight Committee during 1997. Training in cryopreservation of salmonid sperm was also obtained through a workshop and seminar at the University of Idaho. We also participated in a seminar at Oregon State University, Whirling Disease Symposium, and Idaho Chapter of AFS.

The wet lab at EFHL was used by IDFG research biologists to evaluate triploid induction techniques with rainbow trout, studies on WD, safety of Azithromycin with chinook salmon, passage of tumors by injection of tissues, and investigation of vertical transmission of BKD in rainbow trout.

## PRODUCTION STUDIES AND SURVEYS TO ENHANCE FISH HEALTH

For several years, OTC injections have been given to brood rainbow trout at Hayspur Hatchery to inhibit possible vertical transmission of *F. psychrophilum*, which is a problem at hatcheries receiving eggs from Hayspur Hatchery. The primary recipients of these eggs are American Falls, Grace, Nampa, and Hagerman hatcheries. No control groups have been available to test the efficacy of these injections.

Beginning in 1993, a RS culling program, using a membrane fluorescent antibody test (MFAT), was begun at Hayspur. It is hoped that this sensitive method will allow more adequate detection of RS at low levels in ovarian fluids, thereby reducing the transmission of RS to progeny. To date, this test has proven more sensitive than direct fluorescent antibody tests and approximately the same as ELISA; however, the results do not correlate well with ELISA.

Progeny from one Hayspur rainbow female that had high RS levels in kidney ELISA and progeny from one Hayspur rainbow female that had high RS levels in ovarian fluid were reared in the Eagle wet lab and tested periodically to evaluate vertical transmission of RS. The RS was not detected in any of these test groups. A second group, consisting of progeny from one high ELISA female, is currently on hand.

Staff of the EFHL have cooperated during 1997 with cohorts in the fish health and fisheries management fields through the forum of the Pacific Northwest Fish Health Protection Committee (California, Oregon, Washington, Montana, British Columbia, Alaska); Rocky Plains Fish Health Committee (Arizona, Nebraska, Colorado, Nevada, Utah, New Mexico, North Dakota, and South Dakota); membership in the American Fisheries Society, Fish Health Section; cooperative ESA broodstock efforts (U. S. Fish and Wildlife Service, National Marine Fisheries Service, Shoshone-Bannock, and Nez Perce tribes, Bonneville Power Administration); universities (University of Idaho, Washington State University, University of Washington, Oregon State University, University of California-Davis, University of British Columbia, Malaspina College, and the College of Southern Idaho); and with the Whirling Disease Foundation.

Staff of the Eagle Fish Health Laboratory performed inspections of three private aquaculture facilities that import live fish into Canada. This service is provided free of charge and enhances export of Idaho aquaculture products.

## RECOMMENDATIONS

The close proximity of surface waters which have been demonstrated to contain the infectious stage of *M. cerebralis* to waters used for fish culture at IDFG hatcheries requires diligence of all culture personnel to ensure that contamination does not occur. This is true for Ashton, Hayspur, Henrys Lake, and MacKay hatcheries.

Cold water disease is the most universally encountered pathogen in IDFG hatcheries, including Hayspur Hatchery broodstocks. Pathologists with the California Department of Fish and Game have demonstrated that the pathogen can be vertically transmitted and that Penicillin G can be effective in preventing vertical transmission. We recommend that the practices developed in California be tried at Hayspur Hatchery for CWD control. We will try an autogenous CWD vaccine to see if it could also be useful.

Considerable progress has been made in the control of BKD in chinook cultured at all anadromous stations. This has occurred through diligent application of a four-pronged program including injection of all adult females with Erythromycin, 100% sampling of females by ELISA, segregation or culling of eggs from females deemed "highs" by ELISA, and two treatments of progeny with Erythromycin. This program has been very effective. Clinical BKD in progeny has been restricted to those of "high" females and the prevalence of BKD "high" adult females has been gradually decreasing over the last two generations. In general, pre-spawning mortality of all adults has been reduced. This program must continue as the highest fish health priority for chinook hatcheries into the future.

Expansion of the pathogen-free well water at Pahsimeroi Hatchery needs to be given a high priority for funding by Idaho Power Company. The current program by which Pahsimeroi chinook are reared at Sawtooth Hatchery until a length of 7 cm has created considerable competition for well-water between programs. This has been exacerbated by additional demand for eyed-eggs for egg-box programs that IDFG cooperates with the Shoshone-Bannock Tribe. Development of additional pathogen-free water at Pahsimeroi Hatchery would alleviate the competition between programs.

The practice of collecting naturally produced parr to initiate broodstocks of the chinook captive rearing program needs to be re-evaluated. Losses to BKD and the handling stress from *Salmincola* control efforts have been unacceptably high and has limited the number of mature adults produced. The Washington Department of Fish and Wildlife has been successful in removing eyed-eggs from naturally-produced redds by hydraulic pumping. This technique should be tried on an experimental basis by IDFG and could avoid health-related problems in this program.

The Department has cooperated with the International Association of Fish and Wildlife Agencies program for registration of additional therapeutic agents for aquaculture. Progress toward FDA registration has been slow although there has been expansion of label claims for several compounds. Funding from IDFG has come from license sources and is in short supply. We continue to support the participation of IDFG in this process but this participation will need to be scrutinized annually for measured progress toward realistic goals of registrations by FDA.

### ACKNOWLEDGEMENTS

The staff of the Eagle Fish Health Laboratory would like to express our appreciation to the Lower Snake River Compensation Plan, Idaho Power Company, Sport Fish Restoration, and the sportsmen of the State of Idaho for the financial support of our programs. We also greatly appreciate the assistance provided by the fish culture personnel of all the IDFG hatcheries in obtaining samples when our staff could not be present. This has been a big help and has helped to keep costs down. The cooperative INAD programs of the USFWS and University of Idaho have allowed access to therapeutic compounds while they are in the process of registration by the FDA. The help of the hatchery staffs in the INAD process has likewise been appreciated.

### LITERATURE CITED

- Elle, S. and D. Schill. 1999. Wild trout investigations; Whirling disease studies. Idaho Department of Fish and Game, Annual Performance Report, F-73-R-20. Boise, Idaho.
- Dillon, J. and M. Gamblin. 1999. Fisheries management; surveys and inventories of upper snake region. Idaho Department of Fish and Game, Annual Performance Report, F-71-R-23. Boise, Idaho In press.

## APPENDICES



Report Date: 12/7/99

# FISH HEALTH SUMMARY REPORT 1997

Idaho Department of Fish and Game

Eagle Fish Health Laboratory

1/1/97 TO 12/31/97

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species			IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
<b>1 PANHANDLE REGION</b>		D														
WILD	COEUR D'ALENE LAKE	FALL CHINOOK	97-211	7/18/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	GASTROINTESTINAL CARCINOMA
BROOD	WOLF LODGE CREEK	FALL CHINOOK	97-358	9/23/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	NO PATHOGENS DETECTED; VIRO Q/1, ELISA Q/1 (o.d.=0.083), WHD Q/1
BROOD	WOLF LODGE CREEK	FALL CHINOOK	97-359	9/26/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	NO PATHOGENS DETECTED; VIRO Q/1, ELISA Q/1 (o.d.=0.095), WHD Q/1
<b>2 CLEARWATER REGION</b>		D														
ADULT	LOCHSA	SOCKEYE SALMON	97-274	8/20/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	BKD; ELISA 1/1 (O.D. = 0.440), VIRO Q/1, WHD Q/1
WILD	CROOKED RIVER	BULL TROUT	97-275	7/9/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	BKD; ELISA 1/1 (O.D. = 1.612), FAT Q/1, WHD Q/1.
WILD	BRUSHY FORK CREEK (CLEARWATER)	CUTTHROAT TROUT	98-026	9/8/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	NO PATHOGENS DETECTED; WHD Q/59 (DIGEST ONLY)
<b>3 SOUTHWEST REGION</b>		D														
WILD	S.F. BOISE RIVER	WHITEFISH	97-458	12/4/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	MOTILE AEROMONAD SEPTICEMIA; VIRO Q/4, WHD Q/4, AEROMONAS HYDROPHILA 4/4
<b>7 SALMON REGION</b>		D														
WILD	MIDDLE FORK, SALMON RVR	CUTTHROAT TROUT	97-231	8/9/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	MYXOBOLUS; MYXOBOLUS SPP. 1/4 BY DIGEST--HISTO. DID NOT INDICATE M. CEREBRALIS.
WILD	MIDDLE FORK, SALMON RVR	CUTTHROAT TROUT	97-232	8/9/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	WHD; M. CEREBRALIS 2/4 BY DIGEST METHOD, HISTO CONFIRMED IN 1/1
WILD	MIDDLE FORK, SALMON RVR	CUTTHROAT TROUT	97-233A	8/11/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	MYXOBOLUS SPP.; WHD Q/6, MYXOBOLUS SPP. 1/6 (DIGEST ONLY, SPORE TOO LARGE FOR M. CEREBRALIS)
WILD	MIDDLE FORK, SALMON RVR	STEELHEAD	97-233B	8/11/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WILD FISH	NO PATHOGENS DETECTED; WHD Q/1
<b>AMERICAN FALLS HATCHERY</b>		A														
1996	HAYSPUR	RAINBOW TROUT	97-021	2/3/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	NO PATHOGENS DETECTED; VIRO Q/60, BACTE NSG
1997	TROUT LODGE	KAMLOOPS RBT	97-323	9/18/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	NO PATHOGENS DETECTED; VIRO Q/60, FAT Q/60, BACTE-NSG
<b>CABINET GORGE HATCHERY</b>		A														
BROOD	SULLIVAN SPRINGS	KOKANEE, LATE SPAWNER	97-464	12/9/97	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	INSPECTION	RS; VIRO Q/60, FAT Q/60, C. SHASTA Q/20, WHD Q/60, ELISA 6/12 (5-fish pools, all bw).

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses	Page 2
BroodYr	Stock	Species			IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
<b>CLARK FORK HATCHERY</b>		C															
1996	TROUT LODGE	KAMLOOPS RBT	97-095	4/8/97	-	-			-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10, BACTE - NO SIGNIFICANT GROWTH	
1993	WESTSLOPE	CUTTHROAT TROUT	97-172	5/20/97	-	-		+				-			INSPECTION	RS; ELISA 3/10 (2-fish pools; 2 low, 1 high), VIRO 0/60, WHD 0/20, NUCLEOSPORA 0/8	
1996	TROUT LODGE	KAMLOOPS RBT	97-173	5/20/97	-	-			-	-	+				DIAGNOSTIC	CWD, PSEUDOMONAS; VIRO 0/10, F. PSYCHROPHILUM 3/4, P. CHLORORAPHIS, 3/4, P. SPECIES 2/4	
1996	HENRY'S LAKE	BROOK TROUT	97-174	5/20/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10	
1996	HAYSPUR	KAMLOOPS RBT	97-175	5/20/97	-	-			-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/4	
1996	WESTSLOPE	CUTTHROAT TROUT	97-176	5/20/97	-	-			-	-	+				DIAGNOSTIC	CWD; VIRO 0/5, FLAVOBACTER PSYCHROPHILUM 4/4	
1996	CLARK FORK HATCHERY	CUTTHROAT TROUT	97-465	12/10/97	-	-			-	-	+				DIAGNOSTIC	PSEUDOMONAS, CWD; VIRO 0/8, PSEUDOMONAS MALTOPHILA 3/8, P. AUREOFACIENS 1/8, P. SPP. 3/8, FLAVOBACTER PSYCHROPHILUM 1/8	
<b>CLEARWATER HATCHERY</b>		C															
1995	POWELL	SPRING CHINOOK	97-050	3/11/97	-	-		+				-			INSPECTION	RS; FAT 0/10, ELISA 1/2(5-FISH POOLS, O.D.=0.276), VIRO 0/10, WHD 0/10	
1995	RED RIVER	SPRING CHINOOK	97-051	3/11/97	-	-		+				-			INSPECTION	RS; FAT 0/10, ELISA 1/2 (5 FISH POOLS, O.D.=0.100), VIRO 0/10, WHD 0/10	
1995	RAPID RIVER	SPRING CHINOOK	97-052	3/11/97	-	-		+				-			INSPECTION	RS; FAT 0/20, ELISA 2/4 (5-FISH POOLS, O.D.s = 0.103, 0.134), VIRO 0/20, WHD 0/10	
1996	N. F. CLEARWATER	STEELHEAD, B GROUP	97-053	3/12/97	-	-		+				-			INSPECTION	RS; FAT 0/20, ELISA 1/4 (5-FISH POOLS, O.D. = 0.105), VIRO 0/20, WHD 0/20	
1996	RAPID RIVER	SPRING CHINOOK	97-054	3/12/97	-	-			-	-	-				DIAGNOSTIC	PSEUDOMONAS; VIRO 0/5, PSEUDOMONAS CHLORORAPHIS 2/4	
BROOD	N. F. CLEARWATER	STEELHEAD, B GROUP	97-055	3/11/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/20	
BROOD	N. F. CLEARWATER	STEELHEAD, B GROUP	97-065	3/19/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30	
BROOD	N. F. CLEARWATER	STEELHEAD, B GROUP	97-069	3/25/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/39	
BROOD	N. F. CLEARWATER	STEELHEAD, B GROUP	97-079	4/1/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/39	
BROOD	N. F. CLEARWATER	STEELHEAD, B GROUP	97-096	4/8/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/29	
1997	HAYSPUR	KAMLOOPS RBT	97-193	6/26/97	-	-			-	-	-				DIAGNOSTIC	PSEUDOMONAS; VIRO 0/4, PSEUDOMONAS AUREOFACIENS 4/4	
1996	RAPID RIVER	SPRING CHINOOK	97-200	7/11/97	-			+	-	-	+				INSPECTION	RS, CWD, PSEUDOMONAS; IHN 0/20, ELISA 2/2 (low), FAT 0/20, FLAVOBACTER PSYCHROPHILUM 1/12, PSEUDOMONAS FLUORESCENS 3/12	
BROOD	SELWAY	SPRING CHINOOK	97-201	7/11/97				+							INSPECTION	BKD; ELISA 11/11, 2 LOW, 9 HIGH	
1997	N. F. CLEARWATER	STEELHEAD, B GROUP	97-209	7/24/97	-	-		-	-	-	-				INSPECTION	MAS; VIRO 0/10, DFAT 0/10, A. HYDROPHILA 8/8	
1997	N. F. CLEARWATER	STEELHEAD, B GROUP	97-214	7/25/97					-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/8	
1996	RAPID RIVER	SPRING CHINOOK	97-221	7/31/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60	

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses	Page 3
BroodYr	Stock	Species			IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-229	8/6/97				+							INSPECTION	BKD; ELISA 4/4-3 LOW, 1 HIGH (FISH # 1)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-250	8/12/97				+							INSPECTION	RS; ELISA 7/8 ALL LOW	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-251	8/15/97				+							INSPECTION	BKD; ELISA 16/19 (14 LOW, 2 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-252	8/19/97				+							INSPECTION	BKD; ELISA 47/50 (37 LOW, 10 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-268A	8/26/97	-	-		+							INSPECTION	BKD; VIRO 0/60, ELISA 71/71 (50 LOW, 21 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-268B	8/26/97											INSPECTION	SEE ACCESSION 97-268A	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-270	8/20/97				+							INSPECTION	RS; ELISA 4/4, ALL LOW	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-271A	8/22/97				+							INSPECTION	BKD; ELISA 53/53 (35 LOW, 18 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-271B	8/22/97											INSPECTION	SEE ACCESSION 97-271A	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-272	8/25/97				+							INSPECTION	RS; ELISA 4/4 (3 LOW, 1 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310A	8/28/97				+							INSPECTION	BKD; ELISA 15/19 (12 LOW, 3 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310B	8/29/97				+							INSPECTION	BKD; ELISA 44/47 (32 LOW, 12 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310C	9/2/97				+							INSPECTION	BKD; ELISA 99/124 (71 LOW, 28 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310D	9/2/97											INSPECTION	SEE ACCESSION 97-310C	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310E	9/5/97				+							INSPECTION	BKD; ELISA 29/36 (25 LOW, 4 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310F	9/8/97				+							INSPECTION	BKD; ELISA 21/29 (18 LOW, 3 HIGH)	
BROOD	S.F. CLEARWATER	SPRING CHINOOK	97-310G	9/9/97				+							INSPECTION	BKD; ELISA 16/16 (12 LOW, 4 HIGH)	
BROOD	SELWAY	CHINOOK CAPTIVE	97-311A	8/29/97				+							INSPECTION	BKD; ELISA 2/2 HIGH (O.D. = 3.165, 3.129)	
BROOD	SELWAY	CHINOOK CAPTIVE	97-311B	9/2/97				+							INSPECTION	BKD; ELISA 3/3 HIGH (O.D. = 1.534, 0.656, 1.837)	
BROOD	SELWAY	CHINOOK CAPTIVE	97-321	9/11/97				+							INSPECTION	RS; ELISA 1/4 (bw)	
BROOD	S.F. SALMON RIVER	SPRING CHINOOK	97-322A	9/11/97				+							INSPECTION	BKD; ELISA 67/68 (59 bw, 8 high)	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	97-322B	9/11/97				+							INSPECTION	SEE 97-322A	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	97-332	9/18/97				+							INSPECTION	RS; ELISA 4/4 (all bw)	
BROOD	S.F. CLEARWATER RIVER	SPRING CHINOOK	97-333	9/22/97				+							INSPECTION	RS; ELISA 1/1 (LOW)	
BROOD	SELWAY	CHINOOK CAPTIVE	97-334	9/22/97				+							INSPECTION	RS; ELISA 1/1 (LOW)	
1997	ENNIS	RAINBOW TROUT	97-387	10/19/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE-NSG	
1997	HAYSPUR	RAINBOW TROUT	97-388	10/19/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8	
1996	LOOKING GLASS	SPRING CHINOOK	97-389	10/19/97	-	-		+	-	-	-				DIAGNOSTIC	BKD, PSEUDOMONAS; VIRO 0/10, FAT 2/10 (both TNTC), PSEUDOMONAS SPP. 1/8	
1996	S.F. CLEARWATER RIVER	SPRING CHINOOK	97-390	10/19/97	-	-		-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG	
1996	RAPID RIVER	SPRING CHINOOK	97-448	11/19/97	-	-		+	-	-	-				DIAGNOSTIC	BKD, PSEUDOMONAS; VIRO 0/10, FAT 9/10 (heavy), PSEUDOMONAS CEPACIA 2/8, PSEUDOMONAS SPP. 4/8	

LOCATION		Class														Page 4
BroodYr	Stock	Species	Log #	Sample Date	IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH	ExamType	Diagnoses
1996	RAPID RIVER	SPRING CHINOOK	97-449	11/19/97	-	-		+	-	-	-				DIAGNOSTIC	BKD; VIRO 0/10, FAT 7/7, BACTE 0/8
1997	POWELL	SPRING CHINOOK	97-463	12/8/97					-	-	+				DIAGNOSTIC	CWD; FLAVOBACTER PSYCHROPHILUM 2/4
CROOKED RIVER SATELLITE		C														
BROOD	CROOKED RIVER	SPRING CHINOOK	97-308	9/5/97								-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/8
EAGLE HATCHERY		D														
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-001	1/2/97				-							DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1, FAT 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-004	1/8/97				-				+			DIAGNOSTIC	WHD; ELISA 0/14, M.CEREBRALIS 8/14 (PREVIOUSLY CONFIRMED POPULATION)
BY93	RED FISH LAKE	SOCKEYE SALMON	97-006	1/13/97				-							DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-007	1/21/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 LOW (OD=0.168), WHD 0/1 (NFS#ECE-94-51)
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-013	1/22/97											DIAGNOSTIC	LYMPHOSARCOMA; HISTO CONFIRMED
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-016	1/27/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED, HISTO-ant. & post. kidney, liver, spleen, intestine; VIRO 0/1, NUCLEOSPORA 0/1,
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-020	2/2/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED: VIRO 0/1, NO INCLUSIONS IN KIDNEY, SPLEEN, OR LIVER IMPRINTS, HISTO-KIDNEY, LIVER SPLEEN
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-027	2/8/97	-	-		-				-			WILD FISH	NO PATHOGENS DETECTED; VIRO 0/1, WHD 0/1, ELISA 0/1 (o.d. = 0.088), HISTO-LIVER, SPLEEN, KIDNEY
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-029	2/13/97	-	-		+	-	-	-	-			DIAGNOSTIC	PSEUDOMONAS, BKD; VIRO 0/1, PS. FLUORESCENS 1/1, ELISA 1/1 (o.d. = 0.436), WHD 0/1, HISTO: KIDNEY, LIVER, SPLEEN-NO INCLUSIONS
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-030	2/13/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, NO INCLUSIONS IN SPLEEN, KIDNEY, OR LIVER IMPRINTS, HISTO-LIVER, KIDNEY, AND SPLEEN
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-036	2/22/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, NO INCLUSIONS IN SMEARS, HISTO-KIDNEY, LIVER, SPLEEN
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-037	2/22/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, NO INCLUSIONS IN SMEARS, HISTO-KIDNEY, LIVER, SPLEEN
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-044	3/8/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1, VIRO 0/1
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-045	3/9/97				-							DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-048	3/12/97	-	-		+	-	-	+	+			DIAGNOSTIC	RS, CWD, MAS, WHD; ELISA 1/1 (5-FISH POOLS) LOW OD# .109, MYXOBOLUS CEREBRALIS 1/4 - NO HISTO NEEDED PREVIOUSLY CONFIRMED IN GROUP, VIRO 0/4, PSEUDOMONAS 1/4, F. PSYCHROPHILUM 1/4
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-056	3/15/97	-	-		+							DIAGNOSTIC	RS; ELISA 1/1 (o.d. = 0.114), VIRO 0/1, HISTO-KIDNEY, LIVER, SPLEEN
BY94	RED FISH LAKE	SOCKEYE SALMON	97-057	3/16/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1 (o.d. = 0.067), HISTO-KIDNEY, LIVER, SPLEEN

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BroodYr	Stock	Species	Log #	Date	IHN	IPH	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH	ExamType	Diagnoses
BY94	RED FISH LAKE	SOCKEYE SALMON	97-059	3/18/97				-							DIAGNOSTIC	LEUKEMIA (PRESUMPTIVE); ELISA 0/1, NEGATIVE FOR PKX OR NUCLEOSPORA; PROLIFERATION OF LYMPHOBLASTS INDICATES PROBABLE LYMPHOBLASTIC/PLASMACYTOID LEUKEMIA, HISTO--KIDNEY, LIVER, SPLEEN, GUT
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-071	3/29/97	-	-		+	-	-	-	-			DIAGNOSTIC	BKD, PSEUDOMONAS; ELISA 1/1 (HIGH OD =3.841), VIRO 0/1, WHD 0/1, PSUEDOMONAS FLUORESCENS 1/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-072	3/31/97				-				-			DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1, WHD 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-073	3/31/97											DIAGNOSTIC	HISTO-ant. & post. kidney, liver, spleen. SMEARS-bibod, gut, kidney, liver, spleen
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-077	4/2/97	-	-		-							DIAGNOSTIC	LYMPHOSARCOMA, HISTO-tumor (2), intestine, spleen, liver, and. & post. kidney; VIRO 0/1, ELISA 0/1
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-081	4/3/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED, HISTO-ant. & post. kidney, liver, spleen. BLOOD SMEARS; VIRO 0/1
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-083	4/6/97	-	-									DIAGNOSTIC	LYMPHOSARCOMA; VIRO 0/1, SMEARS NEGATIVE FOR INCLUSIONS, HISTO-KIDNEY, LIVER, SPLEEN
BY94	RED FISH LAKE	SOCKEYE SALMON	97-100	4/11/97	-	-									DIAGNOSTIC	LYMPHOSARCOMA; VIRO 0/1, HISTO--KIDNEY, LIVER, SPLEEN
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-101	4/11/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 LOW OD# .183, WHD 0/1, NUCLEOSPORA 0/1
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-108	4/17/97											DIAGNOSTIC	HISTO-ant. kidney, spleen, pseudobranch. SMEARS-bbod, kidney spleen.
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-116	4/22/97											DIAGNOSTIC	HISTO; CHANGES MAY BE DUE TO POST-MORTEM AUTOLYSIS
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-119	4/22/97	-	-		-				-			DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, FAT 0/1, WHD 0/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-135	4/30/97	-	-		+	-	-	-	-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 LOW OD # .224, BACTE NSG, WHD 0/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-143	5/5/97	-	-		+				-			DIAGNOSTIC	BKD; VIRO 0/1, ELISA 1/1 (O.D. = 0.511), WHD 0/1,
ANBY94	RED FISH LAKE	SOCKEYE SALMON	97-145	5/5/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1,
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-147	5/6/97	-	-		-				+			DIAGNOSTIC	WHD; VIRO 0/1, ELISA 0/1, M. CEREBRALIS 1/1
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-148	5/6/97	-	-		+				+			DIAGNOSTIC	BKD, WHD; VIRO 0/1, ELISA 1/1 HIGH, FAT 1/1, WHD 1/1
BY-94	LEMHI RIVER	CHINOOK CAPTIVE	97-151	5/9/97	-	-	-	-	-	-		-			DIAGNOSTIC	EXTERNAL FUNGUS WITH LESION; VIRO 0/1, ELISA 0/1, WHD 0/1, EIBS 0/1, BACTE-A. SOBRIA
ANBY96	RED FISH LAKE	SOCKEYE SALMON	97-181	6/3/97											DIAGNOSTIC	EYE DEFORMITY SURVEY; 1 normal; 3 one-eye; 5 small no eye; 5 large no eye.
BY94	RED FISH LAKE	SOCKEYE SALMON	97-191	6/24/97											DIAGNOSTIC	LYMPHOSARCOMA 1/1
ANBY96	RED FISH LAKE	SOCKEYE SALMON	97-199	6/11/97											RESEARCH	HISTOLOGY OF ONE-EYE ANOMALY
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-202	7/14/97	-	-		-				-			DIAGNOSTIC	NO PATHOGENS DETECTED, UNDETERMINED ETIOLOGY; VIRO 0/1, ELISA 0/1, WHD 0/1
BY94	RED FISH LAKE	SOCKEYE SALMON	97-203	7/16/97											DIAGNOSTIC	LYMPHOSARCOMA 1/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-212	7/25/97	-	-		+				-			DIAGNOSTIC	BKD, SCOLIOSIS; VIRO 0/1, ELISA 1/1 HIGH (o.d = 0.628), WHD 0/1

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BroodYr	Stock	Species	Log #		IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-213	7/25/97	-	-		+	-	-	-	-			DIAGNOSTIC	BKD; VIRO 0/1, ELISA 1/1 HIGH (o.d. = 3.197), FAT 1/1 TNTC, WHD 0/1, BACTE-NSG	
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-218	7/31/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA LOW (o.d. = 0.124), WHD 0/1	
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-219A	7/31/97	-	-		+				+			DIAGNOSTIC	BKD, WHD; VIRO 0/1, ELISA 1/1 LOW, WHD 1/1	
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-219B	7/31/97	-	-		+				-			DIAGNOSTIC	BKD; ELISA HIGH (3.567), FAT-TNTC, R.S. CULTURED ON KDM2 MEDIA AND STOCK CULTURE FROZEN, VIRO 0/1, WHD 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-223	8/1/97											INSPECTION	LYMPHOSARCOMA	
BY94	YANKEE FORK RIVER	CHINOOK CAPTIVE	97-224	8/1/97	-	-		-				-			DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD 0/1	
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-227	8/12/97	-	-		+				-			DIAGNOSTIC	RS; ELISA 1/1 (o.d. = 0.345), VIRO 0/1, WHD 0/1	
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-257	8/22/97				+							DIAGNOSTIC	BKD; VIRO 0/1, FAT 1/1, ELISA 1/1 (O.D.=3.415), WHD 0/1	
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-260	8/25/97	-	-		+				-			INSPECTION	RS, SCOLIOSIS; VIRO 0/1, ELISA 1/1 (0.135), WHD 0/1	
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-291	9/4/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/3, ELISA 3/3 (3 bw), WHD 0/3	
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-305	9/11/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/33, ELISA 20/33 (19 lws, 1 high), WHD 0/33	
BY94	W.F. YANKEE FORK	SPRING CHINOOK	97-306	9/16/97	-	-		+				-			DIAGNOSTIC	BKD; VIRO 0/20, ELISA 12/20 (11 bw, 1 high), WHD 0/20	
BY96	RED FISH LAKE	SOCKEYE SALMON	97-313	9/11/97				-	-	-					DIAGNOSTIC	PSEUDOMONAS; FAT 0/1, ELISA 0/1, PSEUDOMONAS FLUORESCENS 1/1	
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-319	9/18/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/22, ELISA 16/22 (15 bw, 1 high), WHD 0/22	
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-328	9/23/97	-	-		+				+			DIAGNOSTIC	BKD, WHD; VIRO 0/4, ELISA 4/4 (2 bw, 2 high), WHD 1/1 (4-fish pool)	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-349	10/7/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4	
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-350	10/8/97	-	-		+	-	-	-	-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 0/1, BACTE 0/1, WHD 0/1	
BY96	RED FISH LAKE	SOCKEYE SALMON	97-351	10/9/97				-							DIAGNOSTIC	NO PATHOGENS DETECTED; ELISA 0/1	
BY95	LEMHI RIVER	CHINOOK CAPTIVE	97-352	10/9/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (bw), WHD 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-353	10/9/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/11, ELISA 0/11	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-354	10/9/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-356	10/10/97	-	-		+				+			DIAGNOSTIC	BKD, WHD; VIRO 0/1, ELISA 1/1 (0.557), M. CEREBRALIS 1/1 (DIGEST ONLY, POPULATION PREVIOUSLY CONFIRMED BY HISTO).	
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-357	10/10/97	-	-		+				+			DIAGNOSTIC	RS, WHD; VIRO 0/1, ELISA 1/1 (bw), M. CEREBRALIS 1/1 (DIGEST ONLY, POPULATION PREVIOUSLY CONFIRMED BY HISTO).	
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-360	10/10/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (o.d. = 0.261), WHD 0/1	
BY 94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-361	10/10/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1; ELISA 1/1 (O.D.=0.287) WHD 0/1	
BY94	YANKEE FORK RIVER	CHINOOK CAPTIVE	97-362	10/11/97	-	-		+							DIAGNOSTIC	RS; VIRO 0/1; WHD 0/1; ELISA 1/1 (O.D.=0.278)	
BY 94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-363	10/12/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1; ELISA 1/1 (O.D.=0.317); WHD 0/1	

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species			IHN	IPN	EIS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-364	10/12/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 (O.D. = 0.130), WHD 0/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-365	10/12/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.220, WHD 0/1
BY 94	LEMHI RIVER	CHINOOK CAPTIVE	97-366	10/12/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.131, WHD 0/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-367	10/13/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.127, WHD 0/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-368	10/13/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.242, WHD 0/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-369	10/13/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.169, WHD 0/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-370	10/13/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.239, WHD 0/1
BY96	RED FISH LAKE	SOCKEYE SALMON	97-371	10/13/97	-	-		+							DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.287
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-372	10/14/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.311, WHD 0/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-373	10/14/97	-	-		+				+			DIAGNOSTIC	RS, WHD; VIRO 0/1, ELISA 1/1 O.D.=0.138, WHD 1/1
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-374	10/14/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.164, WHD 0/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-375	10/14/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/2, ELISA 2/2 O.D.s=0.171(#1) & 0.310(#2), WHD 0/2
BY94	RED FISH LAKE	SOCKEYE SPawner	97-376	10/14/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18, ELISA 0/18
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-379	10/15/97	-	-		+				+			DIAGNOSTIC	RS, WHD; VIRO 0/1, ELISA 1/1 O.D.=0.158, WHD 1/1
BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-380	10/15/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.282, WHD 0/1
22 BY94	W.F. YANKEE FORK	CHINOOK CAPTIVE	97-381	10/16/97	-	-		+	-	-	+	-			DIAGNOSTIC	RS, CWD, PSEUDOMONAS; VIRO 0/1, ELISA 1/1 O.D.=0.239, PSEUDOMONAS FLUORESCENS, FLAVOBACTER PHYCHROPHILUM, WHD 0/1
BY94	RED FISH LAKE	SOCKEYE SPawner	97-382	10/16/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-383	10/16/97	-	-		+			+	-			DIAGNOSTIC	RS, CWD; VIRO 0/1, ELISA 1/1 O.D.=0.164, FLAVOBACTER PSYCHROPHILUM 1/1, WHD 0/1
BY94	RED FISH LAKE	SOCKEYE SPawner	97-384	10/17/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20
BY94	EAST FORK SALMON RIVER	CHINOOK CAPTIVE	97-385	10/18/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.307, WHD 0/1
BY94	YANKEE FORK RIVER	CHINOOK CAPTIVE	97-386	10/18/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.232, WHD 0/1
BY94	RED FISH LAKE	SOCKEYE SPawner	97-391	10/20/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12, ELISA 0/12
BY94	RED FISH LAKE	SOCKEYE SPawner	97-393	10/23/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12, ELISA 0/12
BY93	RED FISH LAKE	SOCKEYE SALMON	97-394	10/23/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3
BY93	RED FISH LAKE	SOCKEYE SALMON	97-396	10/24/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3
BY93	RED FISH LAKE	SOCKEYE SALMON	97-398	10/26/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY93	RED FISH LAKE	SOCKEYE SALMON	97-399	10/26/97	-	-		-							DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY94	RED FISH LAKE	SOCKEYE SPawner	97-400	10/27/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/8, ELISA 0/8
BY93	RED FISH LAKE	SOCKEYE SALMON	97-401	10/27/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3

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BroodYr	Stock	Species				IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
BY93	RED FISH LAKE	SOCKEYE SALMON	97-402	10/28/97	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/5, ELISA 0/5	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-405	10/29/97	-	-			+							DIAGNOSTIC	RS; VIRO 0/4, ELISA 1/4 O.D.=0.252	
BY94	RED FISH LAKE	SOCKEYE SPAWNER	97-406	10/30/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15, ELISA 0/15	
BY93	RED FISH LAKE	SOCKEYE SPAWNER	97-407	10/30/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4	
BY93	RED FISH LAKE	SOCKEYE SPAWNER	97-408	10/31/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-409	11/1/97	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-410	11/2/97	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/5	
BY96	RED FISH LAKE	SOCKEYE SALMON	97-412	11/3/97	-	-			+							DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D. = 0.246	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-413	11/3/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-414	11/3/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/7, ELISA 0/7	
BY94	LEMHI RIVER	CHINOOK CAPTIVE	97-415	11/3/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-416	11/4/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, ELISA 0/5, HISTO-FIBROMA	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-417	11/6/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-418	11/4/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
23 BY93	RED FISH LAKE	SOCKEYE SALMON	97-419	11/5/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-423	11/3/97	-	-			+							DIAGNOSTIC	RS; VIRO 0/2, ELISA 1/2 O.D. = 0.628	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-425	11/7/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-426	11/8/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6, ELISA 0/6	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-427	11/9/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY96	RED FISH LAKE	SOCKEYE SALMON	97-428	11/9/97	-	-							-			DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1, WHD 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-429	11/10/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-430	11/10/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/3, ELISA 0/3	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-435	11/13/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-437	11/14/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-438	11/14/97	-	-										DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-439	11/15/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY94	RED FISH LAKE	SOCKEYE SPAWNER	97-440	11/17/97	-	-			+							INSPECTION	RS; VIRO 0/6, ELISA 1/6 (O.D. = 0.284)	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-442	11/18/97	-	-			+							DIAGNOSTIC	RS; VIRO 0/1, ELISA 1/1 O.D.=0.137	
BY94	RED FISH LAKE	SOCKEYE SALMON	97-450	11/21/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	
BY93	RED FISH LAKE	SOCKEYE SALMON	97-451	11/21/97	-	-										INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1	

LOCATION		Class		Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species				IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
BY94	RED FISH LAKE	SOCKEYE SALMON	97-452	11/25/97		-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, ELISA 0/4
BY94	RED FISH LAKE	SOCKEYE SPAWNER	97-453	11/25/97		-	-		+							INSPECTION	RS; VIRO 0/23, ELISA 1/23 O.D.=0.145
BY93	RED FISH LAKE	SOCKEYE SPAWNER	97-454	11/25/97		-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1
BY96	RED FISH LAKE	SOCKEYE SALMON	97-459	12/8/97		-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1 (o.d = 0.062)
<b>EAGLE WET LAB</b>		D															
1996	HAYSPUR	RAINBOW TROUT	97-011	1/17/97					-				-			RESEARCH	NO PATHOGENS DETECTED; WHD 0/13, ELISA 0/13
1996	TROUT LODGE	RAINBOW TROUT	97-122	4/23/97									-			RESEARCH	NO PATHOGENS DETECTED; WHD 0/16 (DIGEST ONLY)
BY95	HAYSPUR	RAINBOW TROUT	97-129	4/25/97					-							RESEARCH	NO PATHOGENS DETECTED; ELISA 0/12
BY95	DEAD WOOD RESERVOIR	KOKANEE	97-136	4/30/97												RESEARCH	NO LYMPHOSARCOMA DETECTED.
BY95	HAYSPUR	RAINBOW TROUT	97-144	5/5/97					-							RESEARCH	NO PATHOGENS DETECTED; ELISA 0/60
BY96	DEAD WOOD RESERVOIR	KOKANEE	97-180	5/30/97												RESEARCH	NO LYMPHOSARCOMA DETECTED
1997	HAYSPUR	RAINBOW TROUT	97-190	6/24/97		-	-			-	-	-	-			RESEARCH	NO PATHOGENS DETECTED; WHD 0/10, VIRO 0/1, BACTE-NSG
1995	HAYSPUR	RAINBOW TROUT	97-207	7/21/97					+							RESEARCH	RS; ELISA 1/12 (5-fish) VERY LOW (o.d =0.100)
1995	DEAD WOOD RESERVOIR	KOKANEE	97-222	8/1/97												RESEARCH	NEGATIVE FOR LYMPHOSARCOMA
BY96	RAPID RIVER	SPRING CHINOOK	97-318	9/17/97		-	-		-							RESEARCH	NO PATHOGENS DETECTED; VIRO 0/1, ELISA 0/1 (O.D.=0.091), FAT 0/1
1996	RAPID RIVER	SPRING CHINOOK	97-337	9/29/97					+							RESEARCH	AZITHROMYCIN TRIAL-RS; ELISA 4/30 (pools)
BY95	DEAD WOOD RESERVOIR	KOKANEE, EARLY SPAWNER	97-348	10/6/97												RESEARCH	HISTO-liver, LYMPHOSARCOMA PASSED BY INJECTION
<b>GRACE HATCHERY</b>		B															
1997	HAYSPUR	RAINBOW TROUT	97-034	2/18/97		-	-			-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, AEROMONAS HYDROPHILA 3/8, FLAVOBACTER PSYCHROPHILUM 1/8
1997	HAYSPUR	RAINBOW TROUT	97-189	6/19/97		-	-			-	-	+				DIAGNOSTIC	CWD; VIRO 0/10, F. PSYCHROPHILUM 8/8
1997	HAYSPUR	RAINBOW TROUT	97-245	8/20/97						-	-	-				DIAGNOSTIC	PSEUDOMONAS, FLAVOBACTERIOSIS (CWD?); PSEUDOMONAS FLUORESCENS 1/10, FLAVOBACTER SPP. 1/10
<b>HAGERMAN SFH</b>		C															
1996	HAYSPUR	RAINBOW TROUT	97-123A	4/16/97												INSPECTION	GILL ANEURYSMS 14/20 (70%), 5 LOW, 7 MODERATE, 2 HIGH
1996	HAYSPUR	RAINBOW TROUT	97-123B	5/20/97												INSPECTION	GILL ANEURYSMS 11/20 (55%), 2 LOW, 5 MODERATE, 4 HIGH
1996	TROUT LODGE	KAMLOOPS RBT	97-124A	4/16/97												INSPECTION	GILL ANEURYSMS 5/20 (25%), 2 LOW, 3 MODERATE
1996	TROUT LODGE	KAMLOOPS RBT	97-124B	5/20/97												INSPECTION	GILL ANEURYSMS 11/20 (55%), 1 LOW, 6 MODERATE, 4 HIGH
1996	TROUT LODGE	KAMLOOPS RBT	97-169	5/20/97						-	-	-				INSPECTION	MAS, COLUMNARIS; A. HYDROPHILA 2/3, F.COLUMNARIS 2/3
1996	TROUT LODGE	KAMLOOPS RBT	97-170	5/20/97						-	-	+				INSPECTION	CWD, PSEUDOMONAS; F. PSYCHROPHILUM 1/3, P. FLUORESCENS 3/3

LOCATION		Class		Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species				IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
1996	TROUT LODGE	KAMLOOPS RBT	97-171	5/20/97												INSPECTION	GILL ANEURYSMS 11/19 (57.9%); 8 negative, 1bw, 7 moderate, 3 high
1997	HAYSPUR	KAMLOOPS RBT	97-183A	6/5/97	-	-				-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, F. PSYCHROPHILUM 6/8, A. HYDROPHILA 5/8
1997	HAYSPUR	RAINBOW TROUT	97-183B	6/5/97	-	-				-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, F. PSYCHROPHILUM 6/8, A. HYDROPHILA 5/8 (SEE ACCESSION 97-183A).
1997	HAYSPUR	KAMLOOPS RBT	97-184	6/5/97	-	-				-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/5, F. PSYCHROPHILUM 3/4, A. HYDROPHILA 1/4
1997	HAYSPUR	RAINBOW TROUT	97-194	7/10/97	+	-				-	-	+				DIAGNOSTIC	IHN, CWD; IHNV 1/2 (x5), IPNV 0/10, F. PSYCHROPHILUM 4/4
1997	HAYSPUR	KAMLOOPS RBT	97-195	7/10/97	-	-				-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, F. PSYCHROPHILUM 2/4, A. HYDROPHILA 1/4
1997	TROUT LODGE	KAMLOOPS RBT	97-196	7/10/97	-	-				-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, F. PSYCHROPHILUM 4/4, AEROMONAS HYDROPHILA 1/4
1997	HAYSPUR	KAMLOOPS RBT	97-197	7/10/97	+	-				-	-	+				DIAGNOSTIC	IHN, CWD, MAS; IHNV 2/2 (x5), IPNV 0/10, F. PSYCHROPHILUM 4/4, AEROMONAS CAVIAE 1/4
1997	HAYSPUR	RAINBOW TROUT	97-198	7/10/97	+	-				-	-	-				DIAGNOSTIC	IHN; IHNV 1/1 (x5), IPNV 0/5, BACTE-NSG
1997	MIXED	KAMLOOPS RBT	97-457	12/4/97	+	-				-	-	-				DIAGNOSTIC	IHN, MAS; IHNV 1/2 (x4), IPNV 0/8, AEROMONAS HYDROPHILA 3/8, CITROBACTER FREUNDI, 1/8, PSEUDOMONAS SPP. 1/8

## HAYSPUR HATCHERY

C

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BROOD	COLORADO RIVER	RAINBOW TROUT	97-002	1/7/97	-	-		+								INSPECTION	RS; VIRO 0/50, ELISA 2/10 LOW (o.d. = 0.181, 0.116), MFAT 1/50, FAT 0/10
BROOD	HAYSPUR	KAMLOOPS RBT	97-003	1/7/97	-	-		+								INSPECTION	RS; VIRO 0/10, ELISA 1/10 LOW (o.d. = 0.113), FAT 0/10, MFAT 0/10
BROOD	COLORADO RIVER	RAINBOW TROUT	97-010	1/16/97	-	-		+								INSPECTION	RS; VIRO 0/45, MFAT 1/45, FAT 0/20, ELISA 1/20 MOD (OD .487)
BROOD	HAYSPUR	KAMLOOPS RBT	97-012	1/21/97	-	-		+								INSPECTION	RS; VIRO 0/31, MFAT 0/11, FAT 0/25, ELISA 2/25 LOW OD'S
BROOD	COLORADO RIVER	RAINBOW TROUT	97-017	1/28/97	-	-		+								INSPECTION	RS; VIRO 0/30, FAT 0/10, ELISA 2/10 LOW, MFAT 0/30
BROOD	HAYSPUR	KAMLOOPS RBT	97-026	2/5/97	-	-		+				-				INSPECTION	RS; VIRO 0/16, ELISA 3/25 LOW, DFAT 0/25, MFAT 0/16, OVARIAN BACTE NSG
BROOD	COLORADO RIVER	RAINBOW TROUT	97-028	2/11/97	-	-		+								INSPECTION	RS; VIRO 0/25, MFAT 1/25 (female #195 -TNTC)
BROOD	HAYSPUR	KAMLOOPS RBT	97-035	2/19/97	-	-		+								INSPECTION	RS; VIRO 0/36, ELISA 2/6 HIGH (OD'S = 0.607, 0.381), FAT 0/8, MFAT 2/36
1995	HAYSPUR	KAMLOOPS RBT	97-087	4/7/97	-	-	-	+	-	-	-	-	-			INSPECTION	RS; VIRO 0/60, ELISA 1/60 LOW (o.d. = 0.111), FAT 0/60, WHD 0/60, EIBS 0/5, BACTE NSG, NUCLEOSPORA 0/5
1995	HAYSPUR	RAINBOW TROUT	97-088	4/7/97	-	-	-	+	-	-	-	-	-			INSPECTION	RS, PSEUDOMONAS; VIRO 0/60, ELISA 5/60 LOW OD'S, FAT 0/60, WHD 0/60, EIBS 0/5, BACTE RESULTS: PSEUDOMONAS 1/12, NUCLEOSPORA 0/5
1996	COLORADO RIVER	RAINBOW TROUT	97-106	4/15/97	-	-	-	-	-	-	-	-	-			INSPECTION	PSEUDOMONAS; ELISA 0/60, FAT 0/60, EIBS 0/5, PSEUDOMONAS SPP. 1/12, VIRO 0/60, WHD 0/60
1996	HAYSPUR	RAINBOW TROUT	97-137	4/30/97						-	-	-				INSPECTION	PSEUDOMONAS; P. PAUCIMOBILUS 1/56

LOCATION		Class		Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species				IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
1995	HAYSPUR	RAINBOW TROUT		97-210	7/24/97	-	-			-	-	+				DIAGNOSTIC	ENVIRONMENTAL/BACTERIAL GILL DISEASE, CWD CARRIER; VIRO 0/2, P. FLUORESCENS (from gills) 2/2, F. PSYCHROPHILUM 1/2 (very light)
BROOD	HAYSPUR	RAINBOW TROUT		97-355	10/9/97	-	-		+	-	-	+				INSPECTION	RS, CWD (carrier); ELISA 3/10 (low), DFAT 0/20, F. PSYCHROPHILUM 1/20, VIRO 0/20
BROOD	HAYSPUR	RAINBOW TROUT		97-395	10/23/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/30, FAT 0/30, ELISA 0/10
BROOD	HAYSPUR	RAINBOW TROUT		97-424	11/6/97	-	-		-			-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, ELISA 0/10, FAT 0/50, WHD 0/10, BACTE-CWD 0/20
BROOD	HAYSPUR	KAMLOOPS RBT		97-436	11/13/97	-	-		+							INSPECTION	RS; VIRO 0/40, FAT 0/40, ELISA 1/40 (0.107)
BROOD	HAYSPUR	RAINBOW TROUT		97-443	11/19/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, DFAT 0/50, ELISA 0/10, WHD 0/10
BROOD	HAYSPUR	KAMLOOPS RBT		97-455	11/25/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/36, FAT 0/36, ELISA 0/10
BROOD	HAYSPUR	RAINBOW TROUT		97-456	12/4/97	-	-		+							INSPECTION	RS; VIRO 0/30, FAT 0/30, ELISA 2/10 (o.d.s = 0.175, 0.652)
BROOD	HAYSPUR	KAMLOOPS RBT		97-476	12/17/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12, FAT 0/12, ELISA 0/10
BROOD	HAYSPUR	RAINBOW TROUT		97-477	12/17/97	-	-		+							INSPECTION	RS; VIRO 0/20, FAT 0/20, ELISA 3/10 (o.d.s = 0.131, 0.107, 0.161)
HENRY'S LAKE		C															
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-049	3/11/97				+							INSPECTION	RS; FAT 1/70 (5-FISH POOLS) TNTC
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-066	3/20/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/105, DFAT 0/560
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-080	4/2/97	-	-		+	-	-	-	-			INSPECTION	RS, PSEUDOMONAS; VIRO 0/60, ELISA 7/12(5-FISH POOLS) bws, FAT 0/60, WHD 0/60, PSEUDOMONAS AEROFACIENS 2/12
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-107	4/15/97	-	-		+							INSPECTION	RS; VIRO 0/105, FAT 1/30 TNTC
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-126	4/18/97				-							INSPECTION	NO PATHOGENS DETECTED; FAT 0/273
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-127	4/22/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/140, FAT 0/23
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-139	4/25/97				-							INSPECTION	NO PATHOGENS DETECTED; FAT 0/245
BROOD	HENRY'S LAKE	CUTTHROAT TROUT		97-154	5/7/97				-							INSPECTION	NO PATHOGENS DETECTED; FAT 0/161
BROOD	HENRY'S LAKE	BROOK TROUT		97-392	10/20/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/25, OV-FAT 0/70
BROOD	HENRY'S LAKE	BROOK TROUT		97-403	10/23/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, OV-FAT 0/65
BROOD	HENRY'S LAKE	BROOK TROUT		97-404	10/27/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, FAT 0/60
BROOD	HENRY'S LAKE	BROOK TROUT		97-411	10/30/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, FAT 0/60
BROOD	HENRY'S LAKE	BROOK TROUT		97-420	11/3/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50, FAT 0/55
BROOD	HENRY'S LAKE	BROOK TROUT		97-431	11/10/97	-	-		+	-	-	+				INSPECTION	RS, WHD, CWD; VIRO 0/60, FAT 0/60, ELISA 2/12 (both low), MYXOBOLUS CEREBRALIS 1/12 (HISTO CONFIRMED), FLAVOBACTER PSYCHROPHILUM 2/12, FLAVOBACTERIUM ODORATUM 1/12
BROOD	HENRY'S LAKE	BROOK TROUT		97-432	11/6/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15, FAT 0/53
BROOD	HENRY'S LAKE	BROOK TROUT		97-433	11/10/97				-							INSPECTION	NO PATHOGENS DETECTED; FAT 0/35

LOCATION		Class		Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species				IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
<b>MACKAY HATCHERY</b>		<b>B</b>															
1996	SARATOGA	BROWN TROUT		97-163	5/14/97	-	-		-	-	-	-	-			INSPECTION	MAS; AEROMONAS HYDROPHILA 1/4, FAT 0/20, WHD 0/20, VIRO 0/20
1996	PAINT BANK	BROWN TROUT		97-164	5/14/97	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, WHD 0/20, BACTE-NSG
1996	DEAD WOOD RESERVOIR	KOKANEE		97-165	5/14/97	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD 0/20, BACTE-NSG
1996	COLORADO RIVER	KOKANEE		97-166	5/14/97	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, WHD 0/20, BACTE-NSG
1996	FISH LAKE	WESTSLOPE CUTT TROUT		97-167	5/14/97	-	-		-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, WHD 0/20, BACTE - NSG
<b>MAGIC VALLEY HATCHERY</b>		<b>C</b>															
1996	DWORSHAK	STEELHEAD, B GROUP		97-022	2/4/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE NSG
1996	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		97-023	2/4/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE NSG
1996	PAHSIMEROI	STEELHEAD, A GROUP		97-024	2/4/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/4
1996	SAWTOOTH	STEELHEAD, A GROUP		97-025	2/4/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE NSG
1996	DWORSHAK	STEELHEAD, B GROUP		97-060	3/19/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, FAT 0/20, WHD 0/20
1996	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		97-061	3/19/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, FAT 0/20, WHD 0/20
1996	PAHSIMEROI	STEELHEAD, A GROUP		97-062	3/19/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, FAT 0/20, WHD 0/20
1996	SAWTOOTH	STEELHEAD, A GROUP		97-063	3/19/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, ELISA 0/20, FAT 0/20, WHD 0/20
1997	DWORSHAK	STEELHEAD, B GROUP		97-188	6/16/97	-	-			-	-	+				DIAGNOSTIC	CWD; VIRO 0/20, F. PSYCHROPHILUM 3/4
1997	DWORSHAK	STEELHEAD, B GROUP		97-217	7/29/97	-	-			-	-	+				DIAGNOSTIC	CWD; VIRO 0/10, F. PSYCHROPHILUM 4/7
1997	SAWTOOTH	STEELHEAD, A GROUP		97-338	9/29/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE-NSG
1997	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		97-339	9/29/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE-NSG
1997	PAHSIMEROI	STEELHEAD, A GROUP		97-340	9/29/97	-	-			+	-	+				INSPECTION	FUR, CWD; VIRO 0/10, AEROMONAS SALMONICIDA 3/4, FLAVOBACTER PSYCHROPHILUM 1/4
1997	DWORSHAK	STEELHEAD, B GROUP		97-341	9/29/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE-NSG
1997	DWORSHAK	STEELHEAD, B GROUP		97-472	12/16/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1997	PAHSIMEROI	STEELHEAD, A GROUP		97-473	12/16/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1997	EAST FORK SALMON RIVER	STEELHEAD, B GROUP		97-474	12/16/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1997	SAWTOOTH	STEELHEAD, A GROUP		97-475	12/16/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8

**MCCALL HATCHERY**

C

LOCATION		Class		Log #	Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species				IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
1995	S.F. SALMON RIVER	SUMMER CHINOOK	97-042	3/5/97	-	-			+				-			INSPECTION	RS; VIRO 0/20, ELISA 4/4 (5-FISH POOLS) LOW OD#S .191, .227, .104, .102, FAT 0/20, WHD 0/20
1995	S.F. SALMON RIVER	SUMMER CHINOOK	97-043	3/5/97					+							INSPECTION	RS; ELISA 3/4 (LOW OD#S .120, .248, .156), FAT 0/20
BROOD	WESTSLOPE	CUTTHROAT TROUT	97-155	5/9/97	-	-			+				-	-		INSPECTION	RS; VIRO 0/71, ELISA 14/20 (1 HIGH, 13 LOW), DFAT 0/20, CSH 0/20, WHD 0/20
1996	WESTSLOPE	CUTTHROAT TROUT	97-177	5/21/97	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, FAT 0/60, BACTE-NSG
1996	S.F. SALMON RIVER	SUMMER CHINOOK	97-179	5/28/97	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG
1996	S.F. SALMON RIVER	SUMMER CHINOOK	97-204	7/17/97	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE 0/4
1996	S.F. SALMON RIVER	SUMMER CHINOOK	97-330	9/23/97	-	-			-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG
BY96	S.F. SALMON RIVER	SUMMER CHINOOK	97-447	11/18/97	-	-			-	-	-	-				INSPECTION	PSEUDOMONAS; VIRO 0/10, FAT 0/10, PSEUDOMONAS SPP. 1/4

### NAMPA HATCHERY

A

1996	HAYSPUR	KAMLOOPS RBT	97-005	1/9/97	-	-			-	-	-	-				DIAGNOSTIC	BACTEREMIA; VIRO 0/3, FLAVOBACTER* SPP. 3/3
1996	TROUT LODGE	KAMLOOPS RBT	97-015	1/23/97					-	-	+					DIAGNOSTIC	CWD; FLAVOBACTER PSYCHROPHILUM 8/8
1996	TROUT LODGE	KAMLOOPS RBT	97-018	1/30/97	-	-			-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/8
1996	TROUT LODGE	KAMLOOPS RBT	97-019	1/30/97	-	-			-	-	+					DIAGNOSTIC	CWD; VIRO 0/10, FLAVOBACTER PSYCHROPHILUM 8/8
1996	SARATOGA	BROWN TROUT	97-046	3/10/97	-	-			-	-	-	-				DIAGNOSTIC	MAS; VIRO 0/10, AEROMONAS SOBRIA 4/8, CHRYSEOMONAS LUREOLA 1/8, NUCLEOSPORA 0/4
1996	SARATOGA	BROWN TROUT	97-110	4/18/97					-	-	-	-				DIAGNOSTIC	BACTEREMIA; FLAVOBACTER ODORATUM 1/8
1997	HAYSPUR	RAINBOW TROUT	97-121	4/22/97	-	-			-	-	+					DIAGNOSTIC	CWD, MAS; VIRO 0/5, FLAVOBACTER PSYCHROPHILUM 3/4, AEROMONAS HYDROPHILA 1/4
1997	HAYSPUR	RAINBOW TROUT	97-157	5/12/97					-	-	-	-				INSPECTION	MAS; AEROMONAS HYDROPHILA 2/12
1996	SARATOGA	BROWN TROUT	97-178	5/22/97	-	-	-		-	-	+					DIAGNOSTIC	CWD, MAS; VIRO 0/10, EIBS 0/3, NUCLEOSPORA 0/8, F. PSYCHROPHILUM 3/8, A. HYDROPHILA 4/8
1996	TROUT LODGE	KAMLOOPS RBT	97-206	7/18/97					-	-	+					DIAGNOSTIC	MAS, CWD; A. HYDROPHILA 2/6, F. PSYCHROPHILUM 2/6
1997	HAYSPUR	RAINBOW TROUT	97-344	10/1/97	-	-			-	-	-	-	-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60, ELISA 0/60, BACTE-NSG, WHD 0/60
1997	TROUT LODGE	KAMLOOPS RBT	97-434	11/12/97	-	-			-	-	-	-				DIAGNOSTIC	BACTEREMIA; VIRO 0/5, CITROBACTER FREUNDII 1/8

### NAMPA RESEARCH

D

WILD	RAPID RIVER	BULL TROUT	97-120	4/22/97					+				-			WILD FISH	RS; ELISA 13/13 (O.D.s=0.247, 0.237, 0.200, 0.169, 1.016, 0.519, 0.429, 0.265, 0.437, 0.387, 0.312, 0.514, 1.207 ), FAT 0/13, WHD 0/13 (Actual samples dates 6/19/96 - 7/10/96)
1997	UNKNOWN	RAINBOW TROUT	97-444	11/20/97									-			RESEARCH	WHD 0/15
	UNKNOWN	UNKNOWN	97-445	11/20/97									+			INSPECTION	WHD 15/15
	UNKNOWN	RAINBOW TROUT	97-460	12/8/97									-			RESEARCH	WHD 0/20
1997	UNKNOWN	UNKNOWN	97-461	12/8/97									+			RESEARCH	WHD 13/20

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses	Page 14
BroodYr	Stock	Species			IHN	IPN	EIS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
	FISH CREEK	CUTTHROAT TROUT	97-466	12/15/97								+			INSPECTION	WHD 20/20	
	UNKNOWN	RAINBOW TROUT	97-467	12/15/97								+			RESEARCH	WHD 20/20	
	UNKNOWN	CUTTHROAT TROUT	97-468	12/15/97								+			RESEARCH	WHD 19/20	
	UNKNOWN	RAINBOW TROUT	97-469	12/15/97								+			INSPECTION	WHD 19/20	
	UNKNOWN	CUTTHROAT TROUT	97-470	12/15/97								+			INSPECTION	WHD 20/20	
	UNKNOWN	RAINBOW TROUT	97-471	12/15/97								+			INSPECTION	WHD 18/20	
<b>NATURE CENTER - BOISE</b>																	
1996	HAYSPUR	RAINBOW TROUT	97-047	3/10/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5, BACTE 0/4 NSG	
<b>NIAGARA SPRINGS HATCHERY C</b>																	
1996	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-008	1/16/97	-	-			-	-	+				INSPECTION	CWD, MAS; VIRO 0/10, FLAVOBACTER PSYCHROPHILUM 5/8, AEROMONAS HYDROPHILA 2/8	
1996	PAHSIMEROI	STEELHEAD, A GROUP	97-009	1/16/97	-	-			-	-	+				INSPECTION	CWD, MAS; VIRO 0/10, FLAVOBACTER PSYCHROPHILUM 6/8, AEROMONAS HYDROPHILA 2/8, PSEUDOMONAS SPP. 2/8	
1996	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-014	1/23/97	-	-		-	-	+	-				DIAGNOSTIC	ERM; VIRO 0/10, FAT 0/8, YERSINIA RUCKERI 8/8	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-033	2/19/97	-	-			-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, FLAVOBACTER PSYCHROPHILUM 3/8, AEROMONAS CAVIAE 2/8,	
29 1996	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-040	3/4/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20, FAT 0/20, ELISA 0/20, WHD 0/20	
1996	PAHSIMEROI	STEELHEAD, A GROUP	97-041	3/4/97	-	-		+				-			INSPECTION	RS; VIRO 0/20, ELISA 1/4 (5-FISH POOLS) LOW OD# 0.143, FAT 0/20, WHD 0/20	
1996	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-064	3/19/97	+	-			-	-	+				DIAGNOSTIC	CWD, IHN; IHN 1/1 (x4), IPNV 0/4, FLAVOBACTER PSYCHROPHILUM 4/4	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-186	6/10/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-192	6/26/97	-	-			-	-	+				DIAGNOSTIC	CWD, MAS; VIRO 0/10, F. PSYCHROPHILUM 8/8, A. HYDROPHILA 1/8	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-215	7/29/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE-NSG	
1997	PAHSIMEROI	STEELHEAD, A GROUP	97-216	7/29/97	-	-			-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/8, BACTE-NSG	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-246	8/20/97	-	-			-	-	-				DIAGNOSTIC	PSEUDOMONAD SEPTICEMIA; VIRO 0/10, PSEUDOMONAS PAUCIMOBILUS 2/4	
1997	PAHSIMEROI	STEELHEAD, A GROUP	97-247	8/20/97	-	-			-	-	-				DIAGNOSTIC	MAS; VIRO 0/10, AEROMONAS HYDROPHILA 1/4	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-327	9/22/97	+	-			-	-	-				DIAGNOSTIC	IHN; IHN 2/2 (5-fish pools), IPNV 0/10, BACTE-NSG	
1997	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-377	10/14/97					-	-	+				DIAGNOSTIC	CWD; FLAVOBACTER PSYCHROPHILUM 3/4	

LOCATION		Class		Sample Date											ExamType	Diagnoses
BroodYr	Stock	Species	Log #		IHN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH		
1997	PAHSIMEROI	STEELHEAD, A GROUP	97-378	10/14/97	+	-			-	-	+				DIAGNOSTIC	IHN, CWD, PSEUDOMONAS SEPTICEMIA; IHN 2/2 (x4), IPNV 0/8, FLAVOBACTER PSYCHROPHILUM 3/4, PSEUDOMONAS SPP. 1/4

## NMFS, MANCHESTER, WA

1994	RED FISH LAKE	SOCKEYE SALMON	97-068	3/26/97				+							DIAGNOSTIC	BKD; ELISA 1/37 HIGH OD# 3.201 VERIFIED TNTC BY FAT
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## OXBOW HATCHERY

C

BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-058	3/17/97	-	-		+							INSPECTION	RS; ELISA 3/15 LOW, VIRO 0/42
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-067	3/24/97	-	-		-				-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/10, VIRO 0/20, ELISA 0/15
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-070	3/27/97	-	-		+				-			INSPECTION	RS; ELISA 1/15 LOW OD # .118, WHD 0/20, VIRO 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-086	4/7/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; ELISA 0/15, VIRO 0/20
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-102	4/14/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5
BROOD	HELLS CANYON (SNAKE RIVER)	STEELHEAD, A GROUP	97-118	4/21/97	-	-									DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/6

## PAHSIMEROI HATCHERY

C

30

1995	PAHSIMEROI	SUMMER CHINOOK	97-032	2/13/97	-	-		-	-	-	-				INSPECTION	PSEUDOMONAS; VIRO 0/8, FAT 0/8, PSEUDOMONAS SPP. 6/8
BROOD	PAHSIMEROI	STEELHEAD	97-076	3/31/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, ELISA 0/5
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-082	4/3/97	-	-		+				-			INSPECTION	RS; VIRO 0/10, ELISA 1/10 (0.105), WHD 0/10
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-089	4/7/97	-	-		+				-			INSPECTION	RS; VIRO 0/5, ELISA 1/5 (LOW), WHD 0/5
1995	PAHSIMEROI	SUMMER CHINOOK	97-097	4/10/97	-	-		+				+			INSPECTION	RS, WHD; VIRO 0/20, ELISA 2/4 (x5, BOTH LOW), FAT 0/20, WHD 2/4 (x5)
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-098	4/10/97	-	-		+				-			INSPECTION	RS; VIRO 0/5, ELISA 1/5 (0.105), WHD 0/5
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-105	4/14/97	-	-		+				-			INSPECTION	RS; VIRO 0/20, ELISA 1/10 (0.216), WHD 0/10
BROOD	PAHSIMEROI	STEELHEAD	97-109	4/17/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-117	4/21/97	-	-		+				-			INSPECTION	RS; VIRO 0/20, ELISA 1/5 (LOW), WHD 0/5
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-133	4/28/97	-	-		+				-			INSPECTION	RS; VIRO 0/10, ELISA 1/10 (LOW), WHD 0/10
BROOD	PAHSIMEROI	STEELHEAD, A GROUP	97-140	5/1/97	-	-		+							INSPECTION	RS; VIRO 0/20, ELISA 1/5 (OD=0.176)
1997	PAHSIMEROI	STEELHEAD, A GROUP	97-182	6/3/97	+	-			-	-	-				INSPECTION	IHN; IHN 2/2 (5-fish pools), IPNV 0/10, BACTE-NSG
BROOD	PAHSIMEROI	SPRING CHINOOK	97-287	9/1/97	-	-		+				-			INSPECTION	RS; VIRO 0/2, ELISA 2/2 (0.123, 0.227), WHD 0/2
BROOD	PAHSIMEROI	SUMMER CHINOOK	97-295	8/24/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	PAHSIMEROI	SUMMER CHINOOK	97-296	9/4/97				+				-			INSPECTION	RS; ELISA 1/2 (o.d =0.108), WHD 0/3



LOCATION		Class		Sample												Page 17	
BroodYr	Stock	Species	Log #	Date	IRN	IPN	EIBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH	ExamType	Diagnoses	
1995	RAPID RIVER	SPRING CHINOOK	97-038	2/27/97	-	-		+				-			INSPECTION	RS; VIRO 0/20, FAT 0/20, ELISA 2/4 (x5, OD=0.185, 0.107), WHD 0/20	
1996	RAPID RIVER	SPRING CHINOOK	97-039	2/27/97	-	-			-	-	-				DIAGNOSTIC	PSEUDOMONAS; VIRO 0/5, P. FLUORESCENS 1/4	
1996	RAPID RIVER	SPRING CHINOOK	97-168	5/19/97	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4, FAT 0/4, BACTE - NSG	
1996	RAPID RIVER	SPRING CHINOOK	97-205	7/17/97	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, BACTE 0/10, FAT 0/10	
1996	RAPID RIVER	SPRING CHINOOK	97-220	7/31/97	-	-		-	-	-	+				DIAGNOSTIC	MAS, PSEUDOMONAS, CWD; VIRO 0/10, A. HYDROPHILA 4/4, F. PSYCHROPHILUM 3/4, PSEUDOMONAS SPP. 4/4	
BROOD	RAPID RIVER	SPRING CHINOOK	97-239	8/18/97	-	-		+							INSPECTION	BKD; VIRO 0/15, ELISA 15/15 (10 bw, 5 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-240	8/18/97								-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/20	
BROOD	RAPID RIVER	SPRING CHINOOK	97-243	8/19/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2, ELISA 0/2	
BROOD	RAPID RIVER	SPRING CHINOOK	97-256A	8/21/97	-	-		+							INSPECTION	BKD; VIRO 0/43, ELISA 43/43 (24 bw, 19 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-256B	8/21/97	-	-		+							INSPECTION	SEE ACCESSION 97-256A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-258	8/22/97				+							INSPECTION	BKD; ELISA 9/11(7 bw, 2 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-261A	8/25/97				+							INSPECTION	BKD; ELISA 123/123 (63 bw, 60 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-261B	8/25/97				+							INSPECTION	SEE ACCESSION 97-261A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-261C	8/25/97				+							INSPECTION	SEE ACCESSION 97-261A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-261D	8/25/97				+							INSPECTION	SEE ACCESSION 97-261A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-261E	8/25/97				+							INSPECTION	SEE ACCESSION 97-261A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-262	8/26/97				+							INSPECTION	BKD; ELISA 42/45 (37 bw).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-276A	8/28/97				+							INSPECTION	BKD; ELISA 140/147	
BROOD	RAPID RIVER	SPRING CHINOOK	97-276B	8/28/97				+							INSPECTION	SEE ACCESSION 97-276A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-276C	8/28/97				+							INSPECTION	SEE ACCESSION 97-276A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-276D	8/28/97				+							INSPECTION	SEE ACCESSION 97-276A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-277A	8/29/97				+							INSPECTION	BKD; ELISA 72/94 (63 bw, 9 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-277B	8/29/97				+							INSPECTION	SEE 97-277A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279A	9/1/97				+							INSPECTION	BKD; ELISA 244/257 (39 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279B	9/1/97				+							INSPECTION	SEE ACCESSION 97-279A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279C	9/1/97				+							INSPECTION	SEE ACCESSION 97-279A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279D	9/1/97				+							INSPECTION	SEE ACCESSION 97-279A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279E	9/1/97				+							INSPECTION	SEE ACCESSION 97-279A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-279F	9/1/97				+							INSPECTION	SEE ACCESSION 97-279A	

LOCATION		Class		Sample Date											ExamType	Diagnoses	Page 18
BroodYr	Stock	Species	Log #		IHN	IPN	EISS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
BROOD	RAPID RIVER	SPRING CHINOOK	97-284A	9/2/97				+							INSPECTION	BKD; ELISA 94/158 (16 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-284B	9/2/97				+							INSPECTION	SEE ACCESSION 97-284A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-292A	9/4/97				+							INSPECTION	BKD; ELISA 129/141 (112 bw, 17 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-292B	9/4/97				+							INSPECTION	SEE 97-292A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-292C	9/4/97				+							INSPECTION	SEE 97-292A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-293A	9/5/97				+							INSPECTION	BKD; ELISA 55/139 (44 bw, 11high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-293B	9/5/97				+							INSPECTION	SEE 97-293A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-298A	9/8/97				+							INSPECTION	BKD; ELISA 79/79 (63 bw, 16 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-298B	9/8/97				+							INSPECTION	SEE 97-298A	
BROOD	RAPID RIVER	SPRING CHINOOK	97-299	9/9/97				+							INSPECTION	BKD; ELISA 46/96 (40 bw, 6 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-312	9/11/97				+							INSPECTION	BKD; ELISA 17/17 (4 high).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-316	9/12/97				+							INSPECTION	BKD; ELISA 15/27 (14 bw, 1 high).	
1997	RAPID RIVER	SPRING CHINOOK	97-317	9/16/97				+							INSPECTION	RS; ELISA 4/8 (all bw)	
1996	RAPID RIVER	SPRING CHINOOK	97-343	9/30/97	-	-		-	-	-	-				INSPECTION	MAS; VIRO 0/6, FAT 0/6, AEROMONAS SOBRIA 3/6	
1996	RAPID RIVER	SPRING CHINOOK	97-446	11/18/97	-	-		-							INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG	

### RED RIVER SATELLITE

BROOD	RED RIVER	SPRING CHINOOK	97-307	8/19/97								-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/23
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### SAWTOOTH HATCHERY

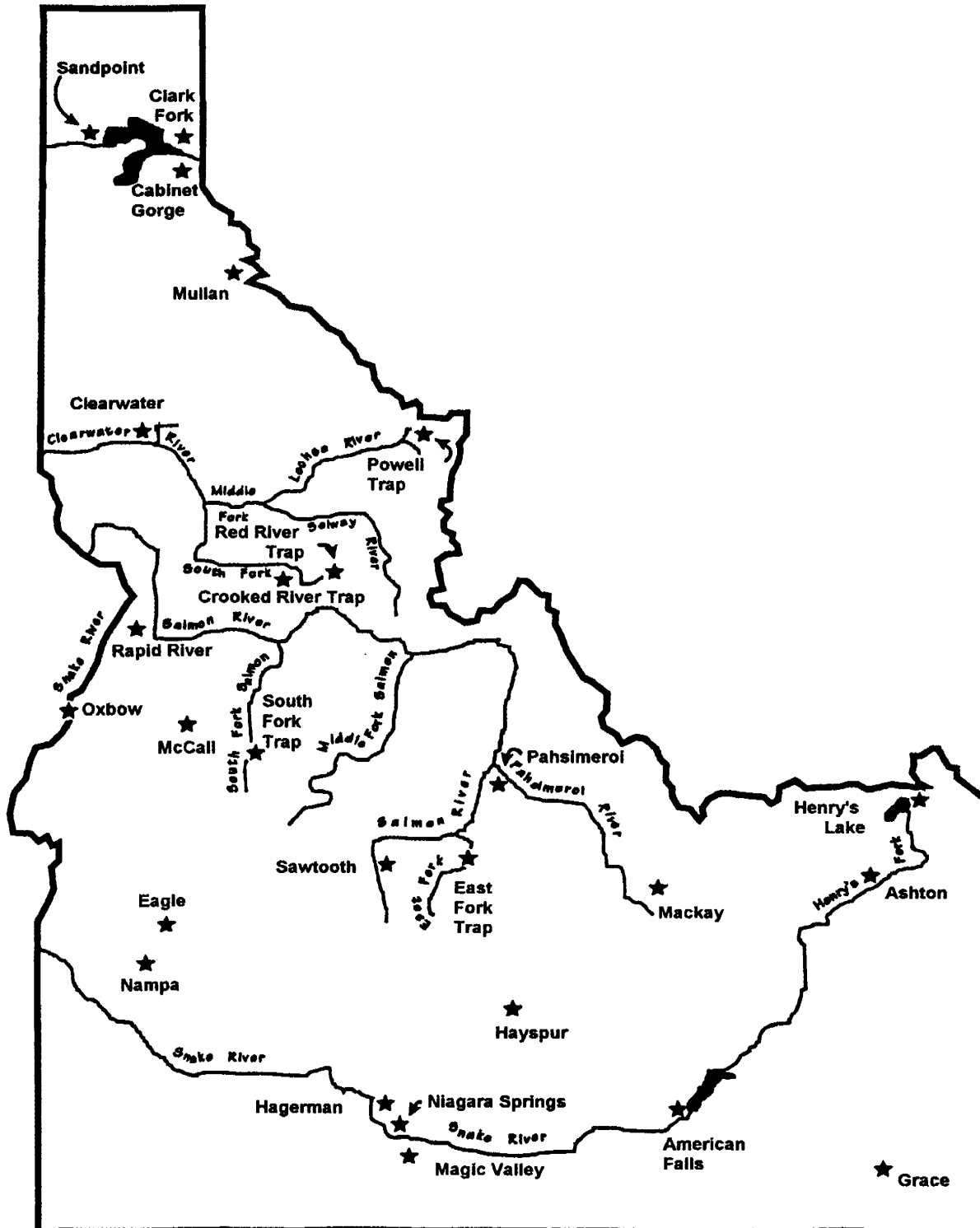
1996	SAWTOOTH	SPRING CHINOOK	97-031	2/12/97	-	-			-	-	-				INSPECTION	PSEUDOMONAS; VIRO 0/5, PSEUDOMONAS STUTZERI 4/5
1996	SAWTOOTH	STEELHEAD	97-074	2/25/97								+			RESEARCH	WHD; M. CEREBRALIS 5/20 (digest), 3/5 (histo).
1996	SAWTOOTH	STEELHEAD	97-075	2/25/97								+			RESEARCH	WHD; MYXOBOLUS CEREBRALIS 12/20
BROOD	SAWTOOTH	STEELHEAD	97-078	3/31/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/13
BROOD	SAWTOOTH	STEELHEAD	97-084	4/3/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/18
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-085	4/3/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1
1995	SAWTOOTH	SPRING CHINOOK	97-090	4/8/97	-	-		+				-			INSPECTION	RS; VIRO 0/20, FAT 0/20, ELISA 4/4 ( ALL LOW), WHD 0/20
1995	PAHSIMEROI RIVER	SUMMER CHINOOK	97-091	4/8/97	-	-		+				-			DIAGNOSTIC	RS; VIRO 0/20, ELISA 2/4 (5-FISH POOLS) LOW OD#S .155, .145, FAT 0/20, WHD 0/20
1996	SAWTOOTH	STEELHEAD, A GROUP	97-092	4/8/97	-	-			-	-	-				DIAGNOSTIC	PSEUDOMONAS; VIRO 0/4, PSUEDOMONAS SPP. 4/4
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-093	4/8/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-094	4/8/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/12
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-099	4/10/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/27

LOCATION		Class	Log #	Sample Date											ExamType	Diagnoses	Page 19
BroodYr	Stock	Species			IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-103	4/14/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/20	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-104	4/14/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/5	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-111	4/17/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/38	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-112	4/16/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-113	4/21/97	-	-		+							INSPECTION	RS, WHD; VIRO 0/51, ELISA 3/5 (2 LOW, 1 HIGH), M. CEREBRALIS 1/1(X5)	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-114	4/18/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/15	
1996	SAWTOOTH	STEELHEAD, A GROUP	97-115	4/21/97	-	-			-	-	+				DIAGNOSTIC	CWD; VIRO 0/10, FLAVOBACTER PSYCHROPHILUM 6/6	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-125	4/24/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/21	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-128	4/24/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/68	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-130	4/28/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/60	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-131	4/25/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-132	4/27/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/9	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-141	5/1/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/50	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-142	4/29/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/2	
34 BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-149	5/5/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/36	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-150	5/2/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/1	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-152	5/8/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/36	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-153	5/6/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/6	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-156	5/9/97	-	-									INSPECTION	NO PATHOGENS DETECTED; VIRO 0/4	
1996	SAWTOOTH	SPRING CHINOOK	97-158	5/12/97	-	-			-	-	-				INSPECTION	PSEUDOMONAS; VIRO 0/1, P.FLUORESCENS 1/1	
OM96	RED FISH LAKE	SOCKEYE SALMON	97-159	5/12/97					-	-	-				INSPECTION	MAS; AEROMONAS HYDROPHILA 7/8	
BROOD	SAWTOOTH	STEELHEAD, A GROUP	97-160	5/12/97				+				+			INSPECTION	RS, WHD; ELISA 39/59 (36 low, 3 high), M. CEREBRALIS 1/4 (5-fish pools)	
BROOD	EAST FORK SALMON RIVER	STEELHEAD, B GROUP	97-161	5/12/97				+				+			INSPECTION	RS, WHD; ELISA 12/33 LOW, M.CEREBRALIS 2/4 (5-FISH POOLS)	
1996	SAWTOOTH	SPRING CHINOOK	97-187	6/13/97				-	-	-	-				DIAGNOSTIC	PSEUDOMONAS; FAT 0/7, PSEUDOMONAS FLUORESCENS 2/4	
BROOD	SAWTOOTH	SPRING CHINOOK	97-234	8/7/97	-	-		+							INSPECTION	BKD; VIRO 0/7, ELISA 7/7 (4 low, 3 high)	
BROOD	SAWTOOTH	SPRING CHINOOK	97-235	8/11/97	-	-		+							INSPECTION	RS; VIRO 0/2, ELISA 2/2 (0.149, 0.162)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-236	8/11/97	-	-		+							INSPECTION	BKD; VIRO 0/1, ELISA high 1/1 (o.d.2.452)	
BROOD	SAWTOOTH	SPRING CHINOOK	97-238	8/13/97	-	-		+							INSPECTION	RS; VIRO 0/6, ELISA 5/6(all low)	
BROOD	SAWTOOTH	SPRING CHINOOK	97-244	8/18/97	-	-		+							INSPECTION	RS; VIRO 0/15, ELISA 15/15 (all low)	
1996	SAWTOOTH	SPRING CHINOOK	97-253	8/21/97	-	-		-	-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; VIRO 0/7, FAT 0/7, BACT; 0/7	

LOCATION		Class		Sample Date											ExamType	Diagnoses	Page 20
BroodYr	Stock	Species	Log #		IHN	IPN	EBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH			
1996	PAHSIMEROI RIVER	SUMMER CHINOOK	97-254	8/21/97	-	-		-	-	-	-				DIAGNOSTIC	MAS; VIRO 0/2, FAT 0/2, AEROMONAS HYDROPHILA 2/2.	
BROOD	SAWTOOTH	SPRING CHINOOK	97-255	8/21/97	-	-		+							INSPECTION	BKD; VIRO 0/5, ELISA 4/5 (3 bw, 1 high)	
BROOD	SAWTOOTH	SPRING CHINOOK	97-264	8/25/97	-	-		+							INSPECTION	BKD; VIRO 0/10, ELISA 10/10 (8 bw, 2 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-265	8/21/97	+	-									INSPECTION	IHN; IHN 2/12, IPNV 0/12	
BROOD	RAPID RIVER	SPRING CHINOOK	97-266	8/25/97	+	-									INSPECTION	IHN; IHN 1/4 (2-fish pools), IPNV 0/8	
BROOD	RAPID RIVER	SPRING CHINOOK	97-267	8/21/97	-	-		+							INSPECTION	BKD; VIRO 0/10, ELISA 6/10 (4 bw, 2 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-280	8/28/97	+	-		+							INSPECTION	IHN, BKD; IHN 2/32, IPNV 0/32, ELISA 22/32 (9 bw, 13 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-281	8/21/97	-	-		+							INSPECTION	BKD; VIRO 0/3, ELISA 16/17	
BROOD	SAWTOOTH	SPRING CHINOOK	97-282	8/28/97	-	-		+							INSPECTION	BKD; VIRO 0/4, ELISA 4/4	
BROOD	SAWTOOTH	SPRING CHINOOK	97-283	8/11/97								+			INSPECTION	WHD; MYXOBOLUS CEREBRALIS 2/6 POOLS ( DIGEST ONLY)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-288	9/2/97	+	-		+							INSPECTION	IHN, BKD; IHN 2/2 (pools), IPNV 0/4, ELISA 4/4 (1 bw, 3 high).	
BROOD	SAWTOOTH	SPRING CHINOOK	97-289	9/2/97	-	-		+							INSPECTION	RS; VIRO 0/5, ELISA 3/4 (3 bw).	
BROOD	RAPID RIVER	SPRING CHINOOK	97-290	9/2/97	+	-		+							INSPECTION	BKD, IHN; IHN 6/50, IPNV 0/50, ELISA 15/17 (7 bw, 8 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-300	9/4/97	+	-		+							INSPECTION	BKD, IHN; IHN 1/2, IPNV 0/2, ELISA 2/2 (1 bw, 1 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-301	9/8/97	+	-									INSPECTION	IHN; IHN 1/17 (2-fish pools), IPNV 0/33	
BROOD	SAWTOOTH	SPRING CHINOOK	97-302	9/8/97	-	-		+							INSPECTION	BKD; VIRO 0/1, ELISA 1/1 (high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-303	9/8/97	+	-		+							INSPECTION	BKD, IHN; IHN 2/3, IPNV 0/3, ELISA 3/3 (2 bw, 1 high)	
BROOD	RAPID RIVER	SPRING CHINOOK	97-324	8/21/97								-			INSPECTION	MYXOBOLUS; MYXOBOLUS SP. 1/4 (4-fish pools) BY DIGEST ONLY	
BROOD	LOOKING GLASS	SPRING CHINOOK	97-325	8/11/97								-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/1	
1996	PAHSIMEROI RIVER	SUMMER CHINOOK	97-347	10/3/97	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG	
1996	SAWTOOTH	STEELHEAD, A GROUP	97-421	11/4/97	-	-		-	-	-	-				INSPECTION	NO PATHOGENS DETECTED; VIRO 0/10, FAT 0/10, BACTE-NSG	
BY96	RED FISH LAKE	SOCKEYE SALMON	97-462	12/9/97					-	-	-				DIAGNOSTIC	NO PATHOGENS DETECTED; BACTE 0/12	
SOUTH FORK TRAP		D															
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-226	8/8/97				+							INSPECTION	RS; ELISA 8/8--ALL LOWS	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-230	8/12/97				+							INSPECTION	RS; ELISA 4/4--ALL LOW	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-237	8/14/97				+							INSPECTION	BKD; ELISA 15/18, (13 bw, 2 high).	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-241	8/19/97								-			INSPECTION	NO PATHOGENS DETECTED; WHD 0/20	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-242A	8/19/97	-	-		+							INSPECTION	BKD; VIRO 0/60, ELISA 52/63 (45 bw, 7 high)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-259A	8/22/97				+							INSPECTION	BKD; ELISA 111/121 (92 bw, 19 high)	
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-259B	8/22/97				+							INSPECTION	SEE ACCESSION 97-259A	

LOCATION		Class		Sample														Page 21	
BroodYr	Stock	Species	Log #	Date	IHN	IPN	ERBS	BKD	FUR	ERM	CWD	WHD	CSH	ICH	ExamType	Diagnoses			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-259C	8/22/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	SEE ACCESSION 97-259A			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-263A	8/26/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	BKD; ELISA 57/64 (49 bw, 8 high)			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-263B	8/26/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	SEE ACCESSION 97-263A			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-278A	8/29/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	BKD; ELISA 106/118 (89 bw, 17 high).			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-278B	8/29/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	SEE ACCESSION 97-278A			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-278C	8/29/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	SEE ACCESSION 97-278A			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-285A	9/2/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	BKD; 80/113 (71 bw, 9 high, 33 negative).			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-285B	9/2/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	SEE ACCESSION 97-285A			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-294	9/5/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	RS; ELISA 27/41 (27 bw).			
BROOD	S.F. SALMON RIVER	SUMMER CHINOOK	97-304	9/10/97	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	INSPECTION	BKD; ELISA 6/11 (6 bw).			

## IDAHO DEPARTMENT OF FISH AND GAME FISH HATCHERIES



Submitted by:

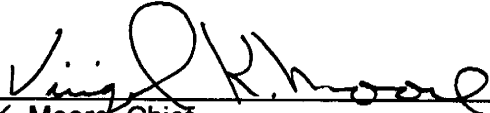
Keith Johnson  
Fish Pathologist Supervisor

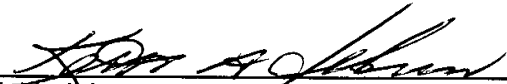
Douglas Burton  
Resident Fish Pathologist

A. Douglas Munson  
Anadromous Fish Pathologist

Approved by:

Idaho Department Of Fish and Game

  
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Virgil K. Moore, Chief  
Bureau of Fisheries

  
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Keith Johnson  
Fish Pathologist Supervisor